

Setting price controls for 2015-20 – PR14 financial model user guide

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All screenshots in this document are included for illustrative purposes only. The numbers displayed are the result of test data and should not be relied upon. They do not reflect and should not act as to a guide of any assumptions that Ofwat may make as part of setting price controls for 2015-20.

This user guide is a not a policy statement and users are referred to Ofwat's 'Setting price controls for 2015-20 – final methodology and expectations for companies' business plans' (the 'methodology statement') and associated documents for further information.

1. Introduction

Background

- 1.1 The PR14 financial model has three purposes.
 - To determine the wholesale price controls.
 - To calculate the revenues arising from the retail price controls.
 - To help assess financeability of the appointee, with the ability to refine the wholesale price control limits until target financeability indicators are satisfied.
- 1.2 For wholesale, the financial model uses the costs of running the wholesale business to derive the revenue requirement and consequently expected turnover in each year. The wholesale revenue requirement identifies the total amount of revenue that needs to be raised from customers in each year in order for the company to finance its functions.
- 1.3 For retail, the financial model applies net margin on expenditure to cover tax and interest costs to determine the retail revenue requirement.
- 1.4 The financial model reflects the methodology for the 2014 review as set out in 'Setting price controls for 2015-20 – final methodology and expectations for companies' business plans' (the 'methodology statement').
- 1.5 The financial model for the 2014 price review has changed since the 2009 price review to reflect the following key changes (although the list is not exhaustive).

- Separation of the single price control into four price controls across wholesale and retail.
 - PR14 incentive mechanisms.
 - Retirement of the PR09 capital expenditure (capex) incentive scheme (CIS) mechanism.
 - Discontinuation of the Construction Output Price Index (COPi) for cost recovery.
 - Simplified tax approach.
 - Depreciation using a run-off rate schedule.
 - Move to International Financial Reporting Standards (IFRS) from UK Generally Accepted Accounting Principles (GAAP) and harmonisation with IFRS.
 - Removal of the June return reporting requirement.
- 1.6 The model uses VBA macros for price control solving, and a user interface to guide the user. Note that the running of a VBA macro cannot be reversed via the Excel Undo function.
- 1.7 The inputs of the financial model will be sourced in part from separate Ofwat internal models and the business plan templates (BPTs) input directly by the user into the financial model, and in part from user specified assumptions.
- 1.8 The key outputs of the financial model will be uploaded to Fountain¹ via the 'F_Outputs' worksheet in the model.
- 1.9 The calculations in the financial model are applicable to all companies.
- 1.10 The financial model has been developed in line with the PR14 Financial Model Rulebook ('PR14 Rulebook'), which in turn has been developed in line with the methodology statement.

Structure of this user manual

- 1.11 This user manual provides guidance on the macro-enabled version of the Excel financial model. It covers:

¹ Fountain is an internal Ofwat system that facilitates the integration of the business plan templates and models in the Ofwat modelling suite.

- an introduction to this user guide, covering the background and structure to the financial model;
- an overview of the financial model and its inputs, calculations and outputs;
- a dedicated section covering the price control solving process used to inform price controls; and
- a dedicated section covering the standard reports (outputs) available in the model.

This user guide is a not a policy statement and users are referred to Ofwat's methodology statement and associated documents for further information.

2. Financial model

Users

- 2.1 The model has been built for and is intended to be used primarily by Ofwat staff and management. It is therefore assumed that the users of the model are familiar with the reporting format being used, have a good understanding of this document, and understand the assumptions inherent in the model with reference to the PR14 Rulebook.

Technical requirements

- 2.2 The model is designed to run on a Windows 7 operating system and is written in the English language version of Microsoft Excel 2010. It makes use of the standard add-ins: Analysis Toolpak and Analysis Toolpak – VBA.
- 2.3 The model is built in 32-bit Excel 2010. It is not guaranteed that the model will work in other versions of Excel, Windows or other operating systems.
- 2.4 In order to run the model properly we anticipate that the minimum technical requirements will be:
- Intel dual core 2.5 GHz processor or better;
 - 4GB RAM or better; and
 - 1 GB of free hard disk space.

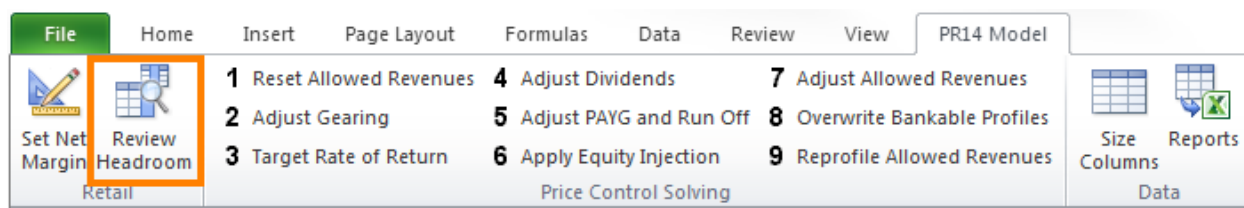
Opening the model

- 2.5 Open the model file in a stand-alone session of Excel and ensure macros are enabled.

- 2.6 The model uses an event macro to detect when inputs to it are changed, as this triggers the recalculation of the retail elements of the model, and to assess whether the changes necessitate the user to revisit any price control solving stages. The events are triggered on navigating away from (deactivating) the input sheets.

Operating the model

- 2.7 The user may wish to determine wholesale price controls through reviewing their impact on the appointee financial ratios. Any changes to the retail inputs will affect the retail price controls and the appointee financial ratios.
- 2.8 It is expected that the retail price controls are calculated prior to solving for the wholesale price controls.
- 2.9 Once the retail net margins are set, the user should then proceed to set the wholesale price controls.
- 2.10 Setting retail price controls after setting the wholesale price controls could lead to wholesale price controls that do not reflect the effects of the retail price controls on the appointee business.
- 2.11 Any changes to the retail price controls in the model will result in the user being notified and forced to re-run any wholesale price control solving that has taken place.
- 2.12 Any changes to the inputs to the model will result in the user being notified; the retail calculations will then be automatically re-run and the user will be forced to re-run any wholesale price control solving that has taken place. To facilitate this, the model uses an event macro to detect when inputs to it are changed. This check is performed when the user navigates away from (deactivating) the input sheets. Because of this, trying to edit the input sheets using a split screen or second view is not supported by the financial model.
- 2.13 The model has a button (see below) on the PR14 model ribbon which allows the user at any point in time, or stage in the wholesale price control solving, to review the retail headroom checks in the model.



Structure of the financial model

2.14 The model has four components.

- Retail.
- Wholesale.
- Combined sheets.
- Report sheets.






A schematic of the model can be found on page 10.

2.15 The following sub-sections outline these areas in more detail.

2.16 Each sheet is colour coded to help the user distinguish groupings. Note that these are different to the cell colour coding.

2.17 Each sheet contains cells corresponding to the tab colour to help indicate the user location. Other cells are coloured white for calculations, or per the key as shown in the model.

2.18 The model key is as follows.

Cell style	Definition
	Manual user input/may be also be populated by form
	Input not possible
	Unique formula
	Unique input (for modeller use only)
	Error check failed



Error check passed

Sheet tab colour

Definition



Manual user input/may be also be populated by form



Separating sheet



Report



Error check sheet



Retail calculations



Retail outputs



Wholesale – water calculations



Wholesale – wastewater calculations

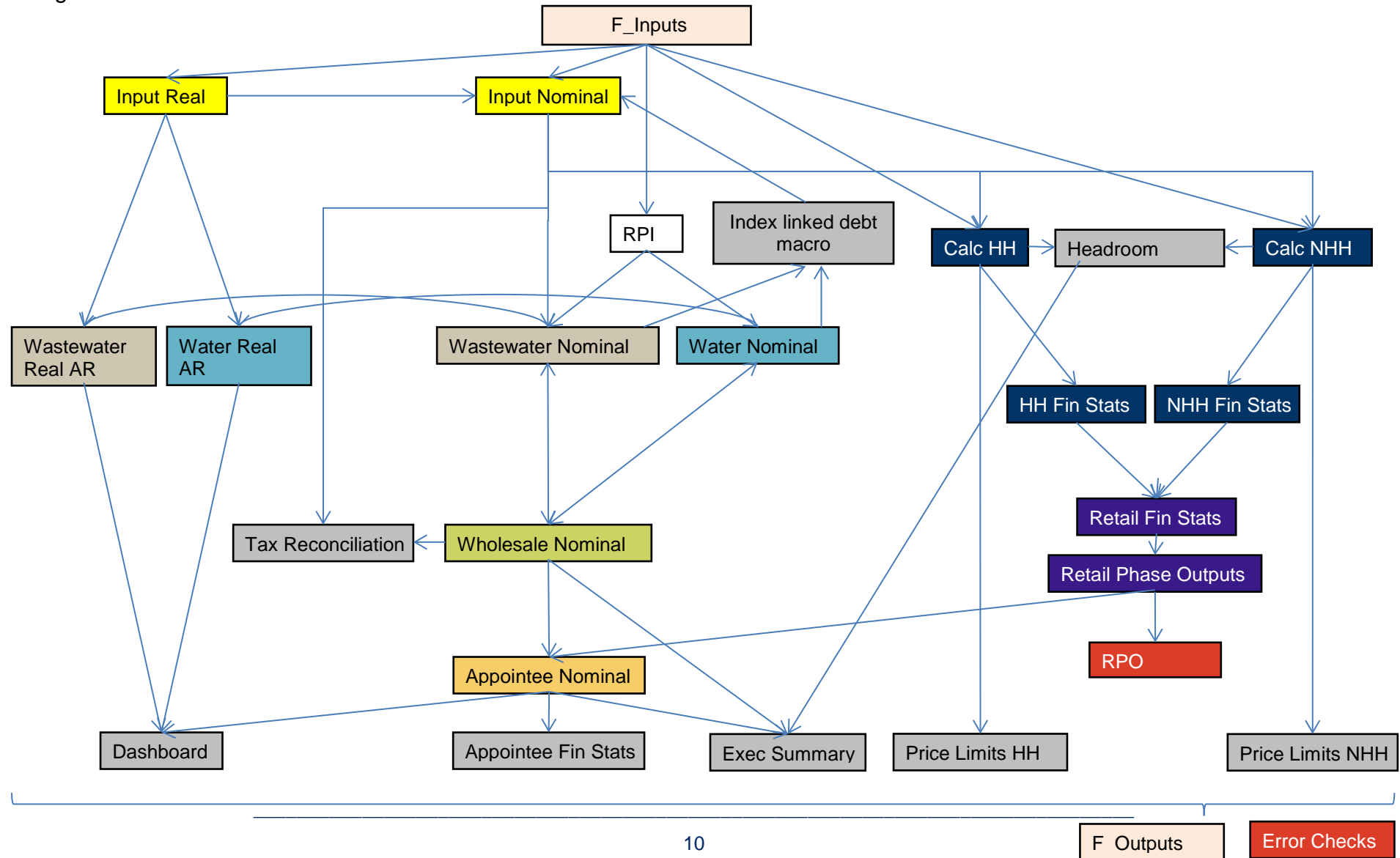


Wholesale – calculations



Appointee – calculations

The model diagram below shows the main data flows throughout the PR14 financial model. It is available in the model to guide navigation.



Retail sheets

2.19 The following worksheets relate specifically to the retail components of the model.

- **Calc HH** – this sheet uses household costs and applies a net margin to derive the retail HH price control.
- **Calc NHH** – this sheet uses non-household costs and applies a net margin to derive the retail NHH price control.
- **Price limits HH** – this sheet reports the HH price controls.
- **Price limits NHH** – this sheet reports the NHH price controls.
- **Headroom check** – this sheet enables the user to carry out a manual check that the applied net margin is sufficient to cover interest and tax for the control.
- **HH Fin Stats** – this sheet provides the retail income statement, balance sheet and cash flow for household, including calculation of the retail debtor, wholesale creditor, measured income accrual, advance receipts and capex creditor, together with their corresponding cashflows.
- **NHH Fin Stats** – this sheet is the same as the HH Fin Stats sheet, but for non-household.
- **Retail Fin Stats** – this is a consolidation of HH Fin Stats and NHH Fin Stats, using a layout consistent with that used at the Appointee level.
- **Retail Phase Outputs** – contains retail information by 'Phase' (phases are overlays of financial information to facilitate calculations used in solving the price controls for each service, discussed later).

Wholesale sheets

2.20 The following sheets relate to wholesale only.

- **Water Nominal** – contains calculations relating to the wholesale water aspects of a water company in nominal terms.
- **Water Real AR** – contains calculations relating to the wholesale water allowed revenue aspects of a water company in real terms.
- **Wastewater Nominal** – contains calculations relating to the wholesale wastewater aspects of a water company in nominal terms.
- **Wastewater Real AR** – contains calculations relating to the wholesale wastewater allowed revenue aspects of a water company in real terms.

- **Wholesale Nominal** – contains calculations relating to the combined wholesale services (covers both water and wastewater services where applicable to a particular company) in nominal terms.
- **Error Checks** – contains calculations to check the integrity of wholesale financial statements.
- **Tax reconciliation** – contains calculations to reconcile tax at wholesale and service levels.

Combined sheets

2.21 The following sheets contain information relating to both retail and wholesale, as denoted by the following descriptions.

- **F_Inputs** – a single input sheet for all model base data inputs. Note this contains information of retail and wholesale elements of the model.
- **Adjustments** – a single input sheet that enables base data inputs to be overridden. Note this worksheet is intended for Ofwat use only and, if used, should be populated prior to carrying out price solving stages.
- **Input Real** – a single sheet holding all real terms inputs to the financial model (including user-specified inputs). Note this contains information of retail and wholesale elements of the model.
- **Input Nominal** – a single sheet holding all nominal terms inputs to the financial model (including user-specified inputs). Note this contains information of retail and wholesale elements of the model.
- **Appointee Nominal** – contains calculations relating to wholesale and retail combined to derive the appointee financeability metrics in nominal prices.
- **Exec Summary** – contains price control outputs and specific information on Allowed Revenue, bills, income statement and financial indicators. Note this contains information of retail and wholesale elements of the model.
- **Dashboard** – contains the calculations (and outputs) generated in solving the wholesale price control. It shows appointee nominal financial indicators.
- **F_Outputs** – a single output sheet which formats key model outputs so they can be uploaded to Fountain.

Output/report sheets

2.22 Of the above sheets the following contain output information. Reports are generated through the 'Reports' function on the ribbon.

- **HH Price limits.**
- **NHH Price limits.**
- **Net margin headroom check** (Headroom check).
- **Appointee Financial Statements** (Appointee Fin Stats).
- **Executive Summary.**
- **Wholesale Tax Reconciliation** (Tax Reconciliation).

Other sheets

2.23 In addition, the following sheets also exist.

- **Version Control** – manual capture of version control and associated change log.
- **Key** – defines the main colour key used throughout the model.
- **RPI** – calculates the RPI indices used throughout the model using assumptions provided via the F_Inputs sheet.
- **Error Checks** – summarises the model's error checks.
- **Index linked debt macro** – a sheet that calculates tax adjustments that result from overriding the opening index linked debt balance.

The following sections outline the above sheets in further detail.

2.24 The initial price controls are calculated automatically from data in the input sheets.

2.25 The wholesale price control solving function is controlled by the price control solving menu bar that takes users through the solving process. This is given a brief overview at section 2.63, and a detailed explanation in section 3 later in this document.

2.26 For retail, household costs and non-household costs are subject to a charge for net margin which covers tax and interest costs, which in turn determines the retail price control. Retail net margin is specified in the retail section of the 'F_Inputs' sheet, and can be overridden in the 'Input Nominal' worksheet.

Input sheets

2.27 There are four input sheets for the model.

- **F_Inputs** – inputs for the wholesale and retail sections.
- **Adjustments** – adjustments to the F_Inputs data, which can be used by Ofwat to adjust data submitted by companies. This is used primarily to adjust for inconsistent input data. Companies wishing to override their non-household default tariffs with total non-household cost to serve and margin should enter this information on the adjustment sheet. If the non-household default tariffs are overridden the blended debtor days should also be entered.
- **Inputs Real** – linked directly to the F_Inputs sheet and used to drive real calculations.
- **Inputs Nominal** – inflated from the Inputs Real sheet and used to drive nominal calculations.

Navigating the ‘Inputs Real’ sheet

Overview of input sheet – ‘collapsed’ level

2.28 The ‘Inputs Real’ sheet is divided into several sections according to the source of the data and the calculations that use it. These are:

- regulated capital value (RCV);
- fixed assets;
- working capital;
- other income and cash flow items;
- tax;
- debt;
- equity;
- adjustment inputs;
- post-financeability adjustments;
- reprofiled Allowed Revenue, grants and contributions;
- customer projections (to be used on Executive Summary sheet); and
- model parameters.

2.29 Note that there is also a separate input sheet, ‘F_Inputs’. The ‘F_Inputs’ sheet is where the base data should be populated. Manual user inputs, and inputs

12123	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
	Input Data - Real																	

2.33 The following screenshot shows the 'Inputs Real' sheet 'expanded' at the detailed level.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221	12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- Non-household net margin by tariff band.

Retail Dividend

- Percentage distributed

1. RCV

- Totex.
- RCV depreciation.
- Cost of capital: water.
- Cost of capital: wastewater.
- Discount rate.
- Other adjustments to RCV.
- Other adjustments to revenue requirement.

2. Fixed assets

- Water.
- Wastewater.
- Investments and intangibles.

3. Working capital

- Current assets and liabilities.

4. Other income and cash flow items

- Other income.
- Other cash flow items.

5. Tax

- Corporation tax rate and opening creditor.
- Water.
- Wastewater.
- Deferred tax and other adjustments.

6. Debt

- Cash interest rates.
- Floating rate debt.

- Fixed rate debt.
- Index-linked debt.
- Preference shares.
- Interest receivable (other).

7. Equity

- Equity.
- Dividends.

8. Adjustment inputs

- Stage counter.
- Run-off rates and PAYG ratio.
- Gearing adjustment.
- Return on capital.
- Dividend adjustment.
- Equity injection.
- Allowed revenue adjustment.
- Bankable allowed input.

9. Post-financeability indicators

- Water: post-financeability adjustments.
- Wastewater: post-financeability adjustments.

10. Reprofiled Allowed Revenue, grants and contributions

- Reprofiled revenue.
- Capital Grants and contributions.
- 2014 allowed revenue (for calculation of 1st period K).

11. Customer projections (to be used on Executive Summary sheet)

- Number of customers.

12. Model parameters

- Tolerance for solving algorithms.
- Iteration limits for solving algorithms.
- Default financial indicators for solving.
- Default financial indicator tolerances for solving.

- Default financial indicator solving status.
- Default for financial indicator inversion for solving.
- Default limits for constraining the financial indicators.

F_Inputs

- 2.35 The inputs of the financial model will be sourced from separate Ofwat internal models and the business plan templates (BPTs). Additional user specified assumptions are also required. These are entered on the 'Input sheet' or via the user interface.
- 2.36 Each input line which comes from a separate Ofwat internal model or the BPTs has a unique Fountain code to identify it.
- 2.37 User specified inputs will be entered in the input sheets (nominal/real), not 'F_Inputs'. To help ensure these assumptions are captured they will be fed through to the 'F_Output' sheet.
- 2.38 Note there is a separate client application developed by Ofwat to download data required for the 'F_Inputs' sheet, and upload information from the 'F_Output' sheet, to and from Fountain.

Calculation sheets overview

Overview

- 2.39 This section of the user manual describes the structure of the calculation sheets only. For further information on calculation methodology, the reader is referred to the PR14 Rulebook which describes the basis on which the model has been developed.
- 2.40 As far as possible, the calculation sheets follow the structure of the PR14 Rulebook, where main headings cross-reference to the flowcharts in the rulebook.

Wholesale calculation sheets

- 2.41 There are several key calculation sheets in the model which relate to the wholesale aspects of the model; these are listed in section 2.20.

- 2.42 The calculation sheets contain calculation cells only and are protected.
- 2.43 No user inputs are expected on these sheets.
- 2.44 The water and wastewater sheets contain identical calculations, using their respective inputs.

Water, wastewater and appointee calculation sheets

- 2.45 The wholesale calculation sheets have a common structure (as outlined in more detail in the sub-sections below).
- 2.46 Each of the wholesale calculation sheets outlined in section 2.20 align to the structure of the PR14 Rulebook, where main headings correspond to the flowcharts in the rulebook.
- 2.47 Note that any PR14 Rulebook headings missing from the list below relate to illustrative diagrams in the rulebook. These do not correspond directly to a discrete area of model functionality, thus not referenced in the model.
- F3 – Retail Household Allowed Revenues.
 - F4 – Retail Non-Household Allowed Revenue.
 - F6 – Wholesale Revenue Requirement.
 - F7 – Wholesale Regulatory Capital Value (RCV).
 - F8 – Wholesale Notional Depreciation.
 - F9 – Wholesale Accounting Depreciation.
 - F10 – Wholesale Return on Capital.
 - F11 – Interest, Financing Costs, and Debt.
 - F12 – Working Capital.
 - F13 – Wholesale Taxation.
 - F14 – Capital Allowances.
 - F15 – Deferred Tax.
 - F16 – Initial Wholesale Price Controls Calculation.
 - F17 – Solving Wholesale Price Controls.
 - F18 – Dividends.
 - F19 – Financial Statement and Indicators.
- 2.48 The calculations under each heading build up the financial projections for a company based on the assumptions in the input sheet – for example, from RCV, Allowed Revenue, working capital, financing, depreciation, to tax.

- 2.49 The service level calculation sheets (water and wastewater) calculate the service-specific revenue requirement.
- 2.50 The initial revenue requirement is calculated under 'Phase 1'. Subsequent phases overlay to facilitate additional calculations used in solving the price controls for each service.
- Phase 1 – financial statements and indicators.
 - Phase 2 – run-off rates and PAYG ratio.
 - Phase 3 – gearing adjustment.
 - Phase 4 – target rate of return.
 - Phase 5 – dividend adjustments.
 - Phase 6 – equity injection.
 - Phase 7 – Allowed Revenue adjustment.
 - Phase 8 – post-financeability revenue adjustments.
 - Phase 9 – reprofile Allowed Revenue.
- 2.51 In the wholesale sheet, the inputs and phases are built up cumulatively, giving the financial projections for the overall wholesale business.

Retail calculation sheets

- 2.52 The following calculation sheets relate to the retail aspects of the model; these are listed in section 2.19.
- 2.53 The calculation sheets contain calculation cells only and are protected.
- 2.54 No user inputs are expected on these sheets.
- 2.55 The screen shots on the following pages relate to the retail calculation sheets outlined in section 2.19. Note that several of the sheets follow a similar structure, so are not all shown below – for example, 'Calc HH' and 'Calc NHH'; and 'Price Limits HH' and 'NHH'.

Retail Financial Stats Nominal sheet

- 2.56 This sheet calculates the nominal financial statements for retail.

Setting price controls for 2015-20: PR14 financial model user guide September 2014

Retail Financial Statements																
	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25				
PR13 Retail Profit & Loss Account																
On 3dp	Revenue		654,243	736,593	738,075	737,363	857,079	762,948	825,523	889,190	935,744	964,722	Retail Revenue			
On 3dp	Operating expenditure		(853,678)	(736,593)	(737,363)	(737,079)	(856,097)	(761,668)	(823,609)	(887,358)	(933,403)	(963,967)	Retail Opex			
On 3dp	Infrastructure spend expensed in year		-	-	-	-	-	-	-	-	-	-	Retail Opex			
On 3dp	Depreciation		(10,000)	(10,000)	(10,000)	(10,000)	-	-	-	-	-	-	Retail Opex			
On 3dp	Operating income		(19,435)	(14,345)	(13,288)	(13,716)	1,082	1,279	1,522	1,832	2,281	2,761				
On 3dp	Other income		-	-	-	-	-	-	-	-	-	-				
On 3dp	Insurance Costs		-	-	-	-	-	-	-	-	-	-				
On 3dp	Interest expenses and indemnification of inter-linked loans		(3,276)	(12,693)	(16,345)	(20,826)	(25,466)	(29,300)	(33,395)	(37,508)	(41,032)	(43,000)	Retail Interest			
On 3dp	Indemnification of inter-linked loans		-	-	-	-	-	-	-	-	-	-				
On 3dp	Profit before tax		(12,716)	(28,996)	(25,364)	(28,542)	(24,383)	(28,742)	(31,873)	(35,676)	(39,775)	(44,247)				
On 3dp	Current Tax		(0,967)	(0,254)	(0,233)	(0,179)	(0,336)	(0,306)	(0,309)	(0,320)	(0,353)	(0,353)	Retail Current Tax Charge			
On 3dp	Deferred Tax		-	-	-	-	-	-	-	-	-	-				
On 3dp	Profit (loss) for the year		(12,872)	(27,250)	(25,617)	(28,721)	(24,519)	(29,027)	(32,182)	(35,996)	(39,828)	(44,600)				
On 3dp	Dividends		-	-	-	-	-	-	-	-	-	-				
On 3dp	Retained profit for the year		(12,872)	(27,250)	(25,617)	(28,721)	(24,519)	(29,027)	(32,182)	(35,996)	(39,828)	(44,600)				
PR14 Retail Balance Sheet																
Non-current assets																
On 3dp	Fixed assets		-	15,000	12,500	15,000	41,000	43,500	66,000	66,000	66,000	66,000	Retail FA			
On 3dp	Intangible assets & Investments - shown by cashflow		-	-	-	-	-	-	-	-	-	-				
On 3dp	Total		-	15,000	12,500	15,000	41,000	43,500	66,000	66,000	66,000	66,000				
Current assets																
On 3dp	Investments		-	-	-	-	-	-	-	-	-	-				
On 3dp	Trade and other receivables		30,000	227,083	248,538	268,693	281,647	303,560	279,378	236,007	313,886	332,276	Retail Trade Debtors			
On 3dp	Prepaid expenses and other receivables		(106,767)	(238,058)	(281,552)	(246,693)	(393,002)	(425,452)	(442,273)	(522,379)	(577,178)	(627,806)				
On 3dp	Total		30,000	30,326	67,036	121,439	(65,047)	(89,923)	(146,074)	(176,284)	(208,493)	(295,530)				
Liabilities																
On 3dp	Trade Creditors		(10,000)	(63,587)	(58,648)	(81,937)	(85,066)	(88,763)	(83,303)	(68,504)	(88,788)	(73,977)	Retail Trade Creditors			
On 3dp	Other Creditors		(3,276)	(12,694)	(16,445)	(20,885)	(25,490)	(29,330)	(33,379)	(37,438)	(41,543)	(43,691)				
On 3dp	Capital creditor		-	(1,233)	(0,685)	(0,685)	(2,044)	(0,957)	-	-	-	-				
On 3dp	Dividend creditor		-	-	-	-	-	-	-	-	-	-				
On 3dp	Borrowings excluding preference shares		-	-	-	-	-	-	-	-	-	-				
On 3dp	Preference shares		-	-	-	-	-	-	-	-	-	-				
On 3dp	Current liabilities		20,000	(0,967)	(0,254)	(0,233)	(0,179)	(0,336)	(0,309)	(0,320)	(0,353)	(0,353)	Retail Trade Creditors			
On 3dp	Retirement benefit obligations		-	-	-	-	-	-	-	-	-	-				
On 3dp	Provisions		-	-	-	-	-	-	-	-	-	-				
On 3dp	Other		-	-	-	-	-	-	-	-	-	-				
On 3dp	Total		(100,000)	(56,939)	(63,433)	(66,306)	(70,793)	(73,786)	(66,942)	(69,365)	(73,347)	(76,463)				

Calc sheets (HH and non-HH)

2.57 These sheets calculate the household/non-household inputs to the retail financial statements.

Calculations for Household retail																
		2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25		
Before cost	1	2	3	4	5	6	7	8	9	10						
1.4 APPLICATION OF THE HH NET MARGIN																
£	Allowance per measured Water customer				31.58	31.68	31.79	32.11	32.21	32.38	32.55	32.72	32.88	33.05		
£	Allowance per measured Sewerage customer				33.16	36.47	40.12	44.13	48.05	53.40	58.74	64.62	71.08	78.18		
£	Allowance per measured Dues service customer				25.81	29.39	33.33	37.68	42.43	47.67	53.40	59.78	66.78	74.44		
£	Allowance per unmeasured customer				17.16	17.26	17.37	17.58	17.79	17.91	18.06	18.22	18.38	18.54		
1.2 FINANCIAL STATEMENT REVENUE, INTEREST AND TAX																
£m	Household retail service revenue				10,627	12,092	13,623	15,879	18,389	21,195	24,631	28,726	33,614	39,455		
£m	Apportioned wholesale charge for HH retail				537,865	588,020	633,433	670,087	723,762	783,153	842,310	910,831	978,125	1,054,726		
	Total household retail service expenditure (including allowed depreciation)				1,751	(1,548)	4,608	7,361	17,384	33,136	53,399	77,266	104,800	136,451		
£m	HH revenue				548,492	600,112	647,256	695,976	742,071	804,348	871,941	948,067	1,022,739	1,101,176		
£m	HH total costs (excluding allowed depreciation)				339,596	388,974	430,442	477,457	531,155	590,288	655,739	727,221	804,050	888,200		
£m	HH depreciation				8,364	12,534	8,532	7,724	-	-	-	-	-	-		
days	HH weighted average debtor days				70,120	70,110	70,097	70,082	70,067	70,024	69,995	69,965	69,930	69,890		
£m	HH working capital interest				(3,631)	(12,365)	(14,531)	(17,821)	(21,648)	(26,463)	(30,187)	(31,644)	(35,575)	(39,932)		
£m	Taxable Profit				-	-	-	-	-	-	-	-	-	-		
£m	Calculation of HH tax charge				-	-	-	-	-	-	-	-	-	-		
£m	MEASURED Household retail service revenue				7,340	8,875	10,051	11,763	13,425	16,336	18,536	22,965	27,506	32,881		
£m	UNMEASURED Household retail service revenue				3,286	3,519	3,791	4,116	4,609	5,292	5,773	6,300	6,904			
1.2 FINANCIAL STATEMENT CAPITAL EXPENDITURE																
£m	Allowed depreciation				(8,364)	(12,534)	(8,532)	(7,724)	-	-	-	-	-	-		
£m Op	HH retail average asset lives				2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500		
£m	Implied Total Fixed Assets at cost from straight line allowed depreciation				-	20,911	31,334	21,307	19,311	-	-	-	-	-		
£m	Prior period Capex which is now fully depreciated				-	-	20,911	31,334	21,307	19,311	-	-	-	-		
£m	Implied Capital Expenditure				20,911	10,423	10,884	29,338	1,996	19,311	-	-	-	-		
£m	Year 1 implied fixed assets - At cost				20,911	20,911	20,911	-	-	-	-	-	-	-		
£m	Year 2 implied fixed assets - At cost				-	-	10,423	10,423	-	-	-	-	-	-		
£m	Year 3 implied fixed assets - At cost				-	-	-	10,884	10,884	-	-	-	-	-		
£m	Year 4 implied fixed assets - At cost				-	-	-	-	29,338	29,338	-	-	-	-		
£m	Year 5 implied fixed assets - At cost				-	-	-	-	-	1,996	1,996	-	-	-		

HH Fin Stats, NHH Fin Stats

2.62 These sheets calculate the retail income statement, balance sheet and cash flow for household and non-household respectively. They have exactly the same layout, other than for Advance Receipts.

A B C D			F G H I J K L M N O P Q R S											
Household Financial Statements														
Yr	Yr	Yr	Year											
1-5	6-10	1-10												
Calc Chk	Year		2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	
Data Chk														
			1	2	3	4	5	6	7	8	9	10		
Unit			Profit & Loss											
€m 3dp	Revenue		1,103,741	1,268,964	1,331,659	1,376,876	1,394,567	1,332,510	1,347,056	1,403,806	1,538,730	1,685,030		
€m 3dp	Opex		(1,089,682)	(1,253,689)	(1,316,001)	(1,359,917)	(1,375,344)	(1,313,086)	(1,327,286)	(1,383,619)	(1,517,977)	(1,663,703)		
€m 3dp	Depreciation		(0,369)	(2,063)	(2,604)	(3,728)	(5,607)	(5,607)	(5,607)	(5,607)	(5,607)	(5,607)		
€m 3dp	Interest received/(cost)		(1,429)	(3,512)	(4,387)	(4,702)	(5,430)	(5,531)	(4,881)	(4,094)	(3,451)	(2,916)		
€m 3dp	Profit before tax		11,661	9,720	8,666	8,528	8,186	8,226	9,282	10,486	11,635	12,805		
€m 3dp	Current tax charge		(2,332)	(1,944)	(1,733)	(1,706)	(1,637)	(1,645)	(1,856)	(2,097)	(2,339)	(2,561)		
€m 3dp	Profit after tax		9,329	7,776	6,933	6,823	6,549	6,581	7,426	8,389	9,356	10,244		
€m 3dp	Dividends		(4,665)	(3,888)	(3,467)	(3,411)	(3,274)	-	-	-	-	-		
€m 3dp	Retained earnings		4,665	3,888	3,467	3,411	3,274	6,581	7,426	8,389	9,356	10,244		
Balance Sheet														
€m 3dp	Fixed assets		-	8,721	17,598	20,404	27,916	41,099	35,492	29,885	24,278	18,671	13,064	
€m 3dp	Total receivables		112,000	115,675	133,419	140,775	145,510	146,986	139,835	140,468	145,185	157,532	170,451	
€m 3dp	Measured income accrual		119,517	116,311	139,932	152,303	162,534	170,560	168,692	176,367	189,927	214,955	242,872	
€m 3dp	Advance receipts unmeasured		-	(34,451)	(38,121)	(39,153)	(38,601)	(37,953)	(35,175)	(34,462)	(34,773)	(36,866)	(39,006)	
€m 3dp	Advance receipts measured		-	(74,379)	(90,536)	(98,674)	(106,285)	(111,177)	(109,597)	(114,199)	(122,563)	(138,242)	(155,667)	
€m 3dp	Wholesale creditor		(231,516)	(62,809)	(96,719)	(102,191)	(105,863)	(107,063)	(101,614)	(102,536)	(106,968)	(117,903)	(123,786)	
€m 3dp	Capex creditor		-	(0,956)	(1,079)	(0,534)	(1,109)	(1,853)	-	-	-	-	-	
€m 3dp	Tax creditor		-	(2,332)	(1,944)	(1,733)	(1,706)	(1,637)	(1,645)	(1,856)	(2,097)	(2,339)	(2,561)	
€m 3dp	Dividend creditor		-	(4,665)	(3,888)	(3,467)	(3,411)	(3,274)	-	-	-	-	-	
€m 3dp	Cash / (overdraft)		-	(35,852)	(50,108)	(55,712)	(63,535)	(76,982)	(70,703)	(60,956)	(51,889)	(45,351)	(38,668)	
€m 3dp	Total		-	4,665	8,553	12,019	15,430	18,705	25,286	32,711	41,101	50,457	60,700	
€m 3dp	Accumulated profit reserve		-	4,665	8,553	12,019	15,430	18,705	25,286	32,711	41,101	50,457	60,700	
Cashflow														
€m 3dp	Opening balance		-	(35,852)	(50,108)	(55,712)	(63,535)	(76,982)	(70,703)	(60,956)	(51,889)	(45,351)		
€m 3dp	Accounting revenue		1,103,741	1,268,964	1,331,659	1,376,876	1,394,567	1,332,510	1,347,056	1,403,806	1,538,730	1,685,030		
€m 3dp	Movement in debtors		(3,676)	(17,743)	(7,357)	(4,735)	(1,476)	7,150	(0,633)	(4,717)	(12,947)	(12,918)		
€m 3dp	Movement in MIA		3,205	(23,620)	(12,372)	(10,230)	(8,027)	1,868	(7,675)	(13,560)	(25,029)	(27,917)		
€m 3dp	Movement in advance receipts		109,430	19,228	9,169	7,059	4,244	(4,358)	3,888	8,674	17,774	19,564		
€m 3dp	Total cash received from customers		1,212,701	1,246,828	1,321,100	1,368,970	1,389,309	1,337,171	1,342,637	1,394,204	1,519,128	1,663,759		
€m 3dp	Wholesale charge		(933,702)	(1,160,625)	(1,226,293)	(1,270,594)	(1,284,762)	(1,219,365)	(1,230,427)	(1,283,621)	(1,414,841)	(1,557,423)		
€m 3dp	Capital expenditure		(9,690)	(10,940)	(5,410)	(11,240)	(18,790)	-	-	-	-	-		
€m 3dp	Movement in trade creditor		(148,708)	13,910	5,472	3,632	1,181	(5,450)	0,322	4,433	10,335	11,882		
€m 3dp	Movement in Capex Creditor		0,956	0,123	(0,545)	0,575	0,745	(1,853)	-	-	-	-		
€m 3dp	Retail service opex		(95,380)	(93,044)	(69,708)	(69,323)	(90,582)	(93,721)	(96,859)	(99,997)	(103,136)	(106,274)		
€m 3dp	Closing balance before paying/receiving interest and tax		(34,429)	(39,539)	(45,439)	(53,633)	(66,435)	(60,200)	(54,430)	(45,338)	(39,802)	(33,413)		
€m 3dp	Interest received/(cost) [for Receivables and Retail Service Opex]		(1,429)	(3,512)	(4,387)	(4,702)	(5,430)	(5,531)	(4,881)	(4,094)	(3,451)	(2,916)		
€m 3dp	Corporation tax		-	(2,332)	(1,944)	(1,733)	(1,706)	(1,637)	(1,645)	(1,856)	(2,097)	(2,339)		
€m 3dp	Dividends		-	(4,665)	(3,888)	(3,467)	(3,411)	(3,274)	-	-	-	-		
€m 3dp	Closing balance		-	(35,852)	(50,108)	(55,712)	(63,535)	(76,982)	(70,703)	(60,956)	(51,889)	(45,351)	(38,668)	

Price control solving

2.63 The financial model provides users with optional functionality in order to help determine the wholesale price controls.

2.64 This sub-section provides a brief overview of the key steps in the price control solving process. The stages available in the price control solving process are described in more detail in section 3 later in the user guide.

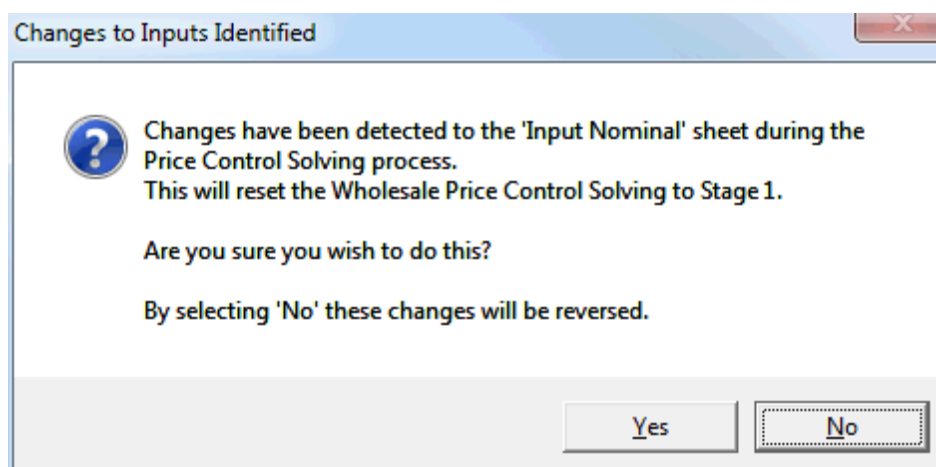
2.65 The following steps are available to the user in determining the wholesale price controls.

1. Reset Allowed Revenues.
2. Adjust gearing.

3. Target rate of return.
4. Adjust dividends.
5. Adjust PAYG and run-off rates.
6. Apply equity injection.
7. Adjust Allowed Revenues.
8. Overwrite bankable profiles.
9. Reprofile Allowed Revenues;

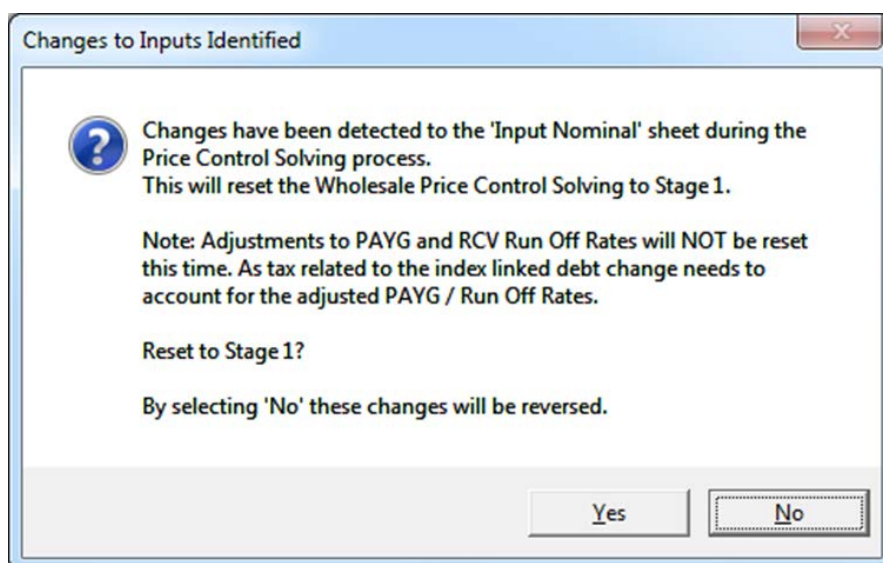
These steps may be accessed through the PR14 price control solving ribbon.

- 2.66 For retail, household costs and non-household charges are subject to the application of a net margin, which in turn determines the retail price control. By design, the retail price controls must cover their underlying costs, including tax and interest costs. The primary lever to refine the retail price controls is the net margin assumption, specified in the retail inputs section of the input sheets.
- 2.67 A headroom check is reported for the retail controls. This helps to inform whether the net margin specified by the user is sufficient to cover tax and interest. This is a manual check the user must make and can be reviewed on the 'Headroom' check sheet (detailed later in this document).
- 2.68 Post-solving the wholesale price control, the retail headroom check must be re-checked for acceptability. See section 3.80.
- 2.69 Upon changing the retail net margin assumptions or input costs, the wholesale price control must be re-solved. The model will notify the user and lead them through this. This is to help ensure that the wholesale charge takes into account any change in retail net margin which impacts appointee financeability. The user will be prompted for this as per the screenshot below.



Note: Changes to the Adjustment sheet do not automatically force the user to re-solve the price controls. However, should an adjustment be made the user should manually re-solve the price controls by Resetting Allowed Revenues using the button on the price control solving ribbon.

If the index linked debt macro has run then any adjustments made to PAYG and RCV run off rates will not be reset and the user will see the following.



Please see section 5 for more information on the index linked debt macro.

- 2.70 The default parameters for the price control solving are set in the 'Input Nominal' sheet. They include:

Tolerance for solving algorithms

- Tolerance for cash adjustment of gearing.
- Tolerance on dividends.
- Tolerance on allowed revenue.
- Tolerance on NPV.

If the algorithm suggests an adjustment of less than the tolerances specified here, then the adjustment is considered too small an adjustment and the algorithm concludes solving.

- Newton-Raphson iteration limit.

- Newton-Raphson iteration limit for revenue reprofiling.

These limits control how many iterations the Newton Raphson algorithm can perform. Greater iterations when coupled with smaller variable tolerances will lead to solutions which are technically more accurate. Increasing the number of iterations may slow down the performance of the model. It is entirely possible that the model may reach a solution within the specified iteration limits, in which case not all iterations will be performed.

- Default financial indicators for solving.

These inputs contain the default values for each financial indicator that the modelling is seeking to solve to.

- Default financial indicator tolerances for solving.

These inputs contain the default tolerances for each value for each financial indicator that the modelling is seeking to solve within.

- Default financial indicator solving status.

These inputs set the default for whether each financial indicator is to be targeted. 'True' means that the indicator is to be targeted, while 'false' means the indicator will not be targeted.

- Default for financial indicator inversion for solving.

These inputs set the default of whether the financial indicator is to be inverted for the purpose of solving. This is required for those indicators which may approach infinite values as they observe an asymptotic relationship when the denominator passes through zero.

- Default limits for constraining the financial indicators.

These inputs set the defaults range within which the financial indicators can be specified by the user during the price control solving user interface.

Standard reports (model outputs)

2.71 The output worksheets (standard reports) in the model are:

- Dashboard;
- HH Price limits;
- NHH Price limits;
- Headroom check (on retail net margins);
- Executive Summary; and
- Tax Reconciliation.

2.72 The standard reports produced by the model have their own dedicated section later in this user guide (section 4).

‘F_Output’ sheet

2.73 The ‘F_Output’ captures specific model outputs and other line items so that they can be uploaded to Fountain.

2.74 It also contains user inputs which have been specified in the financial model – for example, introduced as part of the price control solving process.

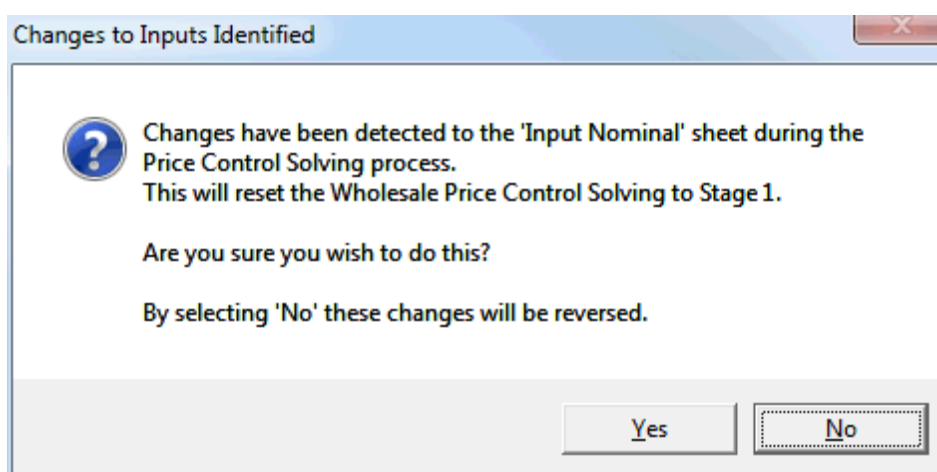
2.75 Integration with Fountain is not a feature found within the financial model. Fountain integration relies on a separate tool developed by Ofwat.

This user guide is a not a policy statement and users are referred to Ofwat's methodology statement and associated documents for further information.

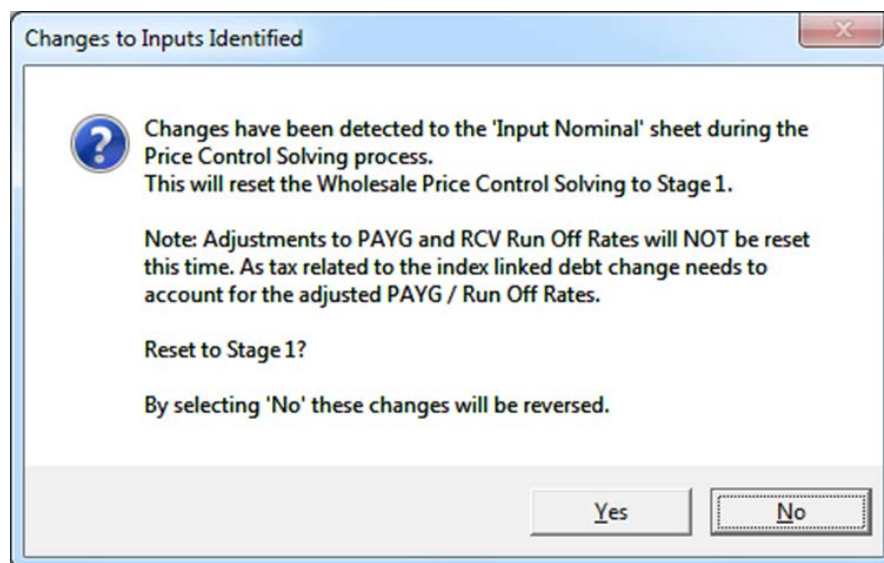
3. Price control solving

Introduction

- 3.1 This chapter outlines the steps that may be taken in the user interface to solve the wholesale price control.
- 3.2 Note that there is a separate process to set the price control for retail (via the net margin assumption, described later in this document).
- 3.3 The retail price controls should be set first before the wholesale price controls. If the retail price control is set after the solving of the wholesale price control, then the wholesale price control must be re-solved.
- 3.4 Where inputs are altered after the wholesale price control solving has been started the model will notify the user with the dialogue box below. The user has a choice of reversing the changes made to inputs, or restarting the price control solving process.



If the index linked debt macro has run then any adjustments made to PAYG and RCV run off rates will not be reset and the user will see the following.



Please see section 5 for more information on the index linked debt macro.

- 3.5 The initial price controls for retail and wholesale are calculated automatically from data in F_Inputs and user inputs.

Retail price control – net margin headroom check

- 3.6 For retail, Ofwat will assess retail margins proposed by companies on a pre-tax basis (EBIT). In the business plans we have asked companies to submit margins based on their 'Retail revenues', which is the same as total revenues. This assessment is performed outside of the financial model. The financial model uses household costs and non-household costs, and applies a net margin that is derived from the overall EBIT margin which covers tax and interest costs, which in turn determines the retail price control.
- 3.7 Note that the wholesale and retail elements are combined in the appointee financial statements for the purpose of assessing financeability and determining price controls.
- 3.8 Retail net margin is specified at the retail inputs section of the 'F_Inputs' sheet. Should the user wish to override the base retail net margin this may be achieved in the 'Input Nominal' sheet.
- 3.9 Note that if the inputs are changed for the retail model (for example, costs, revenue, or margin) then the wholesale price control solving process needs to

be updated by running the desired steps again. The wholesale price control solving process is described from section 3.15 onwards.

- 3.10 Conversely, if the wholesale price control is updated, the headroom check needs to be carried out, and net margin may require revisiting.
- 3.11 The user should visit the 'Headroom check' sheet in order to perform a manual check that the selected level of nominal net margin is sufficient – for example, to cover tax and interest.
- 3.12 At the 'Headroom check' sheet, the following information is available for household and non-household.
- Retail net margin calculated as a percentage of retail revenue inclusive of the wholesale charge(%).
 - Retail interest is calculated as a percentage of net margin (%).
 - Retail tax as a percentage of net margin plus interest receivable (%).
 - Headroom is calculated as retail net margin, less retail tax and interest on working capital.
 - Headroom is then also calculated as a percentage of net margin plus interest receivable (%).

In addition to the above, tariff-level information for non-household is available at the 'Headroom check' sheet. Note: The net margin % calculated at the tariff level are not expressed as EBIT margins, they are expressed as margin as a percentage of retail revenue only for the tariff only (i.e. excluding the wholesale charge).

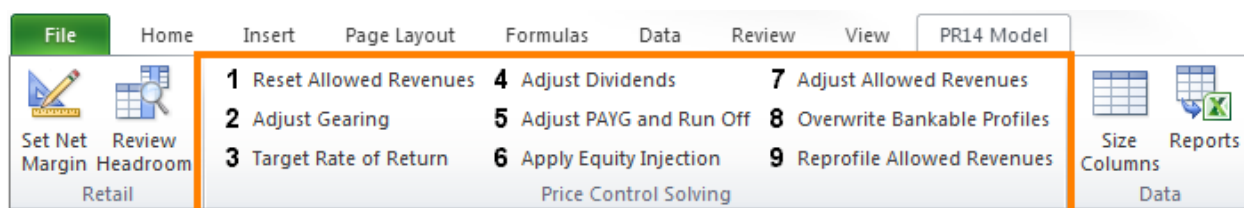
- 3.13 If the headroom check is insufficient to cover interest and tax, the user can consider revisiting the inputs until they are satisfied that headroom is acceptable.
- 3.14 The screenshot below shows the 'Headroom check' sheet in the model.

Headroom check

This sheet calculates the headroom as a percentage of net margin for retail.

3.15 Once the initial wholesale price control has been calculated the user may elect to use optional functionality that will help determine price controls that are financeable.

3.16 The optional wholesale price control solving functionality can be accessed through the PR14 Model ribbon menu.



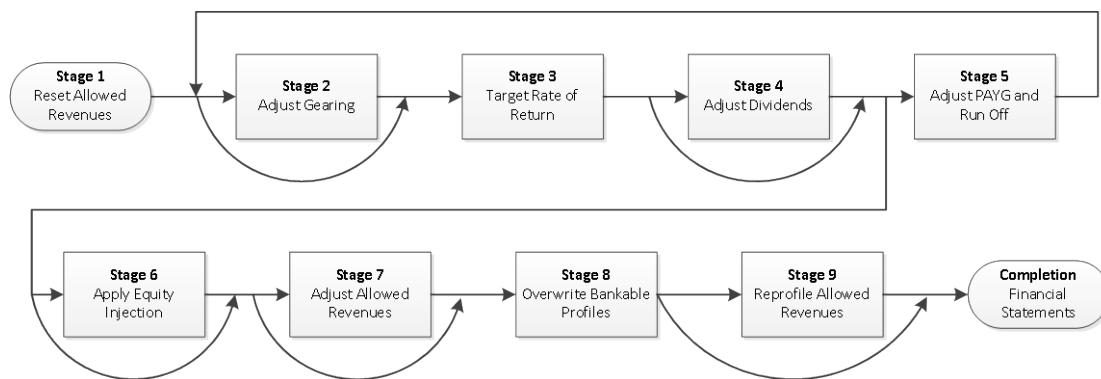
3.17 The above interface guides the user through the following steps in the wholesale price control solving process. Not all steps are mandatory, and some can be skipped by the user. For example, the user can skip to reprofile allowed revenues.

- 32

- Adjust Allowed Revenues.
- Overwrite bankable profiles.
- Reprofile Allowed Revenues.

3.18 The solving functions are controlled through the user interface. The following diagram and subsequent paragraphs outline the process.

Overview of the wholesale price control solving process



- 3.19 The user workflow occurs in stages whereby a discrete function sits in each stage. Note that the order of the calculations (outlined in section 2.50) for each function may differ to workflow that the user experiences. To help distinguish this difference, the user workflow refers to stages, and calculations are referred to by phases. The table below explains the mapping of the workflow stages to the calculation phases in the model.

	Workflow stage	Calculation phase
Reset Allowed Revenues/Set initial revenues	1	1
Adjust gearing	2	3
Target rate of return	3	4
Adjust dividends	4	5
Adjust PAYG and run-off rates	5	2*
Apply equity injection	6	6
Adjust allowed revenues	7	7
Overwrite bankable profiles	8	8
Reprofile allowed revenues	9	9

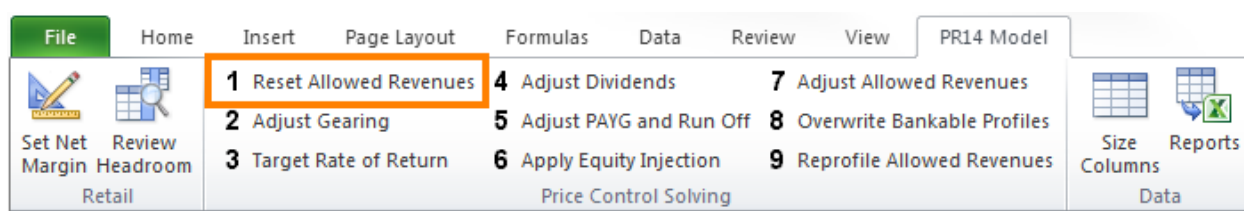
* Adjusting PAYG and run-off rates is stage 5 in the model workflow. This does not preclude the user from running other solving stages first. However, the user must skip or confirm required assumptions in earlier price control solving stages. For calculation purposes, any adjustments to the RCV – for example, via adjustment of the PAYG or run-off rates – must occur prior to performing a gearing adjustment as the gearing adjustment relies on the calculation of RCV. This is why the PAYG and run-off rate adjustments occur at calculation phase 2.

- 3.20 There is a user interface for each stage in the price control. On each user interface:
- the 'Apply' button applies the user input parameters as shown on the solving user interface;
 - the 'Cancel' button reverts the user back to the model and reverts they change you made;
 - if you press 'ESC' or click the form close button ('X') it does the same as the Cancel button;

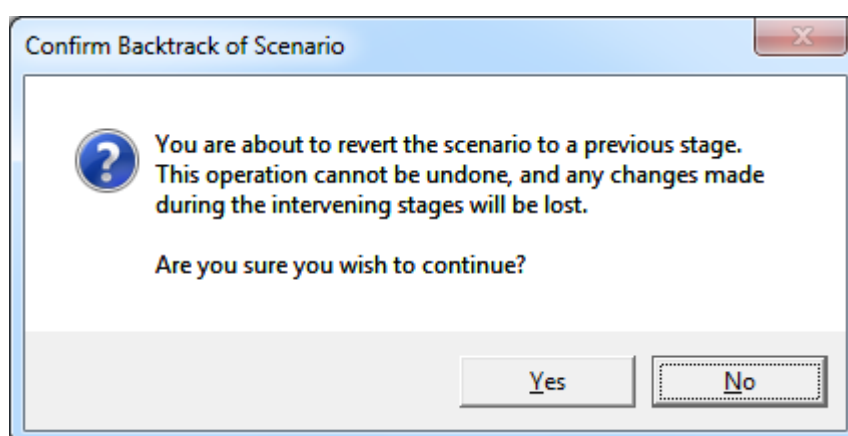
- the 'Skip – Remove Effects' button allows you to continue to the next stage, it removes the impact of the skipped stage; and
 - you cannot skip a phase and retain the effects of that stage unless you click Apply.
- 3.21 The user begins at stage 1, and progresses through each stage sequentially, as per the guidelines detailed in later sub-sections of this document. Subsequent stages will be locked or 'greyed out' in the user form unless the previous stage has been addressed.
- 3.22 It is possible to skip stages 2, 4, 6, and 7 by clicking the 'Skip' button, which means the relevant step will not be applied. To complete the solving process, other stages must be addressed by either accepting or changing the values currently used in the model, which are shown in the user form.
- 3.23 If the user reverts to an earlier stage, the effects of subsequent stages are removed until they are returned to and applied. If the user exits the form, changes applied up to that point are retained.
- 3.24 At stage 5 the user is required to confirm the PAYG and run-off rates for water and wastewater. Note that if these rates differ to those used in previous stages, then the user must return to stages 2, 3, and 4. This is because changing PAYG or run-off rates has implications for gearing, rate of return, and in turn dividends.
- 3.25 With reference to the diagram earlier on the price control solving process, the following sub-sections outline how the model's user interface guides the user through the steps available to help determine the wholesale price controls.
- 3.26 Note that the user workflow is described in stages; whereas the model calculations are applied at the phases outlined at section 2.50. This reflects that there is a difference between the calculation flow, and the user experience.
- 3.27 At some stages in the solving process there is the option to set model inputs by service (water and wastewater). If producing model outputs for a water only company (WoC) the user should select options to specify inputs at Water service level wherever available. As will be described later, if the input labelled 'Company type' in the 'Input' sheet (at section 12 Model Parameters) is set to 'WoC', then the options for wholesale and/or wastewater will be disabled in the dialogue boxes for stages 3, 5, 6, 8 and 9.

Stage 1 – reset Allowed Revenues

- 3.28 This step removes all user inputs relating to wholesale price control solving – that is, it sets these inputs to zero. Each time a user elects to begin a new version of the model, based on a previous version which has solved the price controls, this step must be applied to clear old inputs.
- 3.29 This is a semi-automated stage; the user must manually run this stage, while the model automatically calculates the initial Allowed Revenues.
- 3.30 This step is implied at the ‘Calculate Initial Allowed Revenue’ stage as shown at the solving process diagram in the previous sub-section.
- 3.31 To perform this step, go to the ‘PR14 Model’ tab in the ribbon and click the button ‘1 Reset Allowed Revenues’.



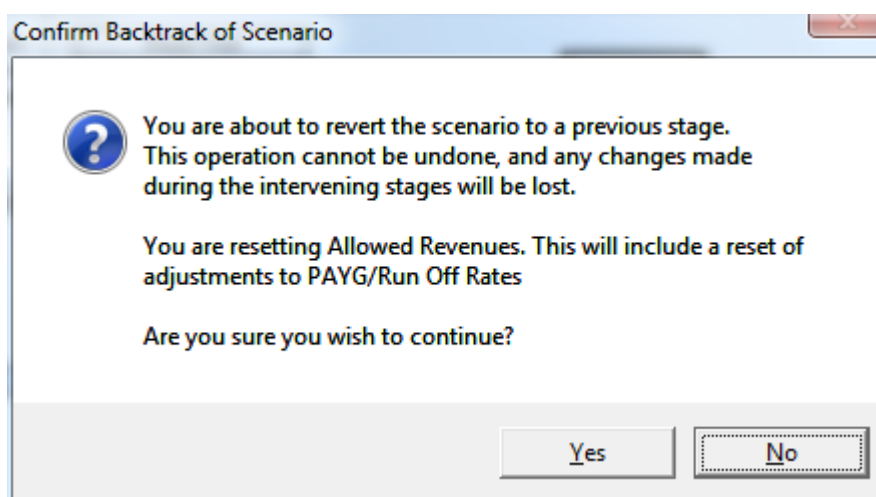
- 3.32 If you wish to revert to an earlier stage **between 2 and 9** in the solving process, a warning box will appear to ask if you want to reset the input values and outputs for the current model scenario.



- 3.33 If you click ‘Yes’ you will lose the inputs that you have applied in the current and subsequent stages. **Note that this will not remove any PAYG and run off rates as defined in stage 5 (phase 1).**

3.34 If you click 'No' the dialogue box closes and the model remains unchanged.

3.35 If you wish to revert to stage 1 in the solving process, a warning box will appear to ask if you want to reset the input values and outputs for the current model scenario.



3.36 If you click 'Yes' you will lose the inputs that you have applied in the current and subsequent stages. Note that this will reset the PAYG and run off rates as defined in stage 5 (phase 1).

3.37 If you click 'No' the dialogue box closes and the model remains unchanged.

Stage 2 – adjust gearing

3.38 This step allows the user to choose the target for gearing (net debt:RCV). The user may target the opening gearing in the base year or the average over the first five years.

Note there is a gearing adjustment input on the Adjustments sheet. This input only affects the gearing used to calculate the recommended dividend under the dividend growth method. This has no impact on the capital structure or effective gearing.

3.39 This is a semi-automated stage, in that the user must determine the target gearing and the gearing approach desired. The model then calculates the appropriate movements in net debt and reserves that will satisfy the user-chosen gearing level.

- 3.40 If the user is intending to put the company onto a fully notional basis, which reflects Ofwat's view of both gearing for an efficient company and the cost of debt, the following steps need to be carried out before running the gearing adjustment below.
- 3.41 The notionalisation process is used to move the capital structure used in the model from the company's actual capital structure to a notional capital structure. The company's actual capital structure uses its actual debt instruments, actual cost of debt and proposed level of dividends as presented in the business plan tables. This is input into the model through the various feeder models and F-Inputs. The notionalisation process converts it to a notional capital structure based on a notional level of gearing and including a notional cost of debt and notional level of dividends which are consistent with the notional appointee WACC.
- 3.42 For companies which are geared above the notional level of gearing, the tax calculations take into account the company's actual level of gearing and the cost of debt embedded within the notional WACC when calculating the interest shield available to offset against the tax charge. For companies which are below the notional level of gearing, the interest used in the tax computation is based on the both the notional gearing level and the cost of debt embedded within the notional WACC.
- 3.43 Applying the notional cost of debt/cost of capital:
1. Set the cost of capital and real cost of debt in line with Ofwat's view of the notional structure.
 2. Set the household and non-household retail margins in line with Ofwat's view of the notional structure.
 3. Set the cash/overdraft interest rate equal to Ofwat's view of the notional cost of debt (nominal). This input will also override the retail working capital financing rates for both household and non-household.
 4. Set the interest rates for existing and new fixed rate debt so that they equal Ofwat's view of the notional cost of debt (nominal) and the interest rates for existing and new index linked debt so that it is in equal to Ofwat's view of the notional cost of debt (real).
- 3.44 Under the notional capital structure it is assumed that all debt (including any bank balances) bears interest at a rate that is consistent with the cost of debt embedded in the notional WACC. To enable this to flow through the model correctly it is assumed that all debt, including preference shares, is either categorised as fixed rate debt on which a nominal interest rate is changed or

index linked debt on which a real interest rate is charged and where the capital element increases annually by inflation. Floating rate debt and the associated interest is set to zero as the model uses an input value for the interest on the debt rather than recalculating it from first principles.

3.45 Applying the notional capital structure:

5. Set the floating rate debt interest to zero.
6. Override the opening fixed rate debt to the sum of the opening balances for fixed and floating rate debt and preference shares (set formula to '=Debt.Float.Bf.Input+Shares.Pref.2015.Input+Debt.Fixed.Bf.Input').
7. Set the opening floating rate debt balance to zero.
8. Set the movements in fixed and floating rate debt to zero and remove any apportionments.
9. Set the interest receivable in line with the above capital structure, e.g. to zero.
10. Set the opening preference shares balance and the movements in preference shares to zero.

3.46 Preparing notional dividends:

11. Set the preference share dividends to zero.
12. Set the inputs for ordinary dividend and special ordinary dividend paid per share to zero.
13. Set the percentage of dividends issued as scrip shares and the interim dividends to zero.
14. Set the dividend yield and real dividend growth figures for all years in line with Ofwat's view of the notional structure.
15. Set the share issues in each year to zero.

3.47 Applying index linked debt:

16. Set the indexation rate for index linked debt in line with Ofwat's view of RPI (set formula to '=Inflation.Yearly.Average'). The model will recalculate the indexation of index lined debt rather than using input values. Note that using Ofwat RPI figures is part of moving to the Ofwat view of costs and is done for consistency across all companies rather than being part of notionalisation.
17. Set the gearing in phases 1 and 2 of the model for the purpose of calculating dividends under the growth method using the Gearing.Adjustments on the Adjustments sheet. In most cases the adjustment should be equal to the opening gearing value in the actual

model although this will not always be the case. If, having set the interest rates and dividend assumptions in line with the costs embedded within the WACC, the average gearing at Phase 1 differs significantly from the company's target level of gearing pre notionalisation then the modeller may wish to consider making an adjustment to the opening level of debt so that the average gearing across each AMP is in line with target levels. This will ensure that an appropriate interest shield is used for the purposes of calculating the tax to be included in allowed revenue.

- 3.48 The modeller should follow the appropriate steps depending on whether the company's actual gearing is above or below the notional level to ensure that the model calculates the tax value to be included in the allowed revenue correctly.

If the company's actual gearing (Appointee Nominal Phase 1 - Financial Indicators) is below the notional level, then follow steps 1 to 3 (Option A). If the company's actual gearing is above the notional gearing then follow steps 4 to 6. (Option B).

Option A: Actual gearing is below the notional level

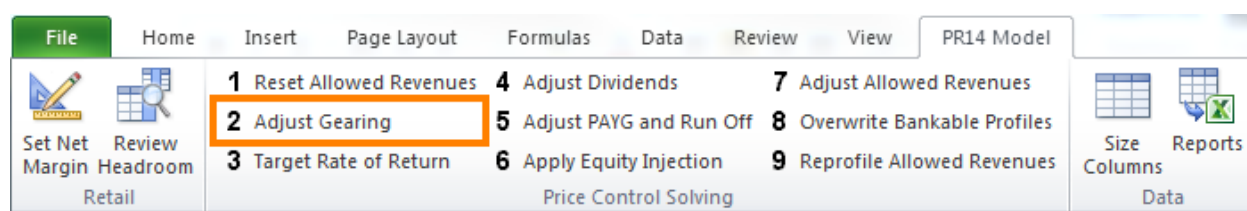
1. Option A: Set the movements in index linked debt to zero and the apportionments to blank using the override lines.

Run the Gearing Adjustment on the PR14 Toolbar to set the gearing to the notional level. The target gearing approach adopted is 'base year' and the blended interest rate on change in borrowings should reflect the notional cost of debt (nominal). Ensure that you select the option 'Do not hold tax for allowed revenue constant'.

2. Option A: If you wish to set index linked debt as a specific proportion of opening net debt then the following additional steps now need to be followed. Having run the Gearing adjustment above identify the opening net debt figure (Appointee Nominal Phase 3 - Financial Indicators) and calculate the target value for opening index linked debt. (Notional % x opening net debt). Enter this amount in the override for opening net debt. Press 'Yes' when asked to clear the Other Tax Adjustments. Press 'No' when asked to hold the tax constant.
3. Option A: Re run the gearing adjustment to reset the gearing to the required level, keeping the inputs the same as in step 1 above.

Option B: Actual gearing is above the notional level

4. Option B: Run the Gearing Adjustment on the PR14 Toolbar to set the gearing to the notional level. The target gearing approach adopted is 'base year' and the blended interest rate on change in borrowings should reflect the notional cost of debt (nominal). Ensure that you select the default option 'Allow interest movement to flow to financial statements while holding the tax for allowed revenue constant'.
 5. Option B: If you wish to set index linked debt as a specific proportion of opening net debt then the following additional steps now need to be followed. Having run the Gearing adjustment above identify the opening net debt figure (Appointee Nominal Phase 3 - Financial Indicators) and calculate the target value for opening index linked debt. (Notional % x opening net debt). Enter this amount in the override for opening net debt. Press 'Yes' when asked to clear the Other Tax Adjustments. Press 'Yes' when asked to hold the tax constant. This will hold the tax position as if no adjustment to index linked debt had been made.
 6. Option B: Set the movements in index linked debt to zero using the override lines.
 7. Option B: Re run the gearing adjustment to reset the gearing to the required level, keeping the inputs the same as in step 4 above.
- 3.49 To adjust gearing, click on the ribbon tab called 'PR14 Model' and click on '2 Adjust Gearing'.



- 3.50 The relevant dialogue box appears, showing the current and target gearing, and allows the user to do the following.
- Input the target for gearing.
 - Choose the target gearing approach at the drop-down menu at the top of the box:

- using the base year – gearing is set such that the first year is set to equal to the target gearing; or
- a five-year average – gearing is set such that average gearing for five years equals target gearing.
- Select to apply one of the following tax treatments:
 - allow interest movement to flow to financial statements, while holding tax for Allowed Revenue constant (note this is an actual structure, with interest). This is the default option;
 - do not allow interest movement to flow to financial statements, while holding tax for Allowed Revenue constant (note this is an actual structure, without interest); or
 - do not hold tax for Allowed Revenue constant (if selecting this option, the tax structure would be fully notional – that is, not based on an actual company's position). Note that neither tax nor interest are held constant in this option.
- Input the percentage interest rate to be applied to the additional borrowing as part of the gearing adjustment.

3.51 The above tax and interest options are available because gearing adjustments move gearing and financing away from an actual structure (based on company business plans) to a notional structure. This implies that the new corresponding structures are also notional. The user can therefore elect to apply one of the above options to hold tax constant, and allow or prevent interest movements flowing to financial statements.

Gearing and Dividend Adjustment

Target gearing approach: 5 Yr Average

Current gearing (%): 67.585

Target gearing (%): 55.760

Solving Not Yet Complete

Interest / Tax Options

- ☒ Allow interest movement to flow to financial statements while holding tax for allowed revenue constant (default)
- ☐ Do not allow interest movement to flow to financial statements while holding tax for allowed revenue constant
- ☐ Do not hold tax for allowed revenue constant

Blended interest rate on change in borrowings (%)

2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
8	8	8	8	8	8	8	8	8	8

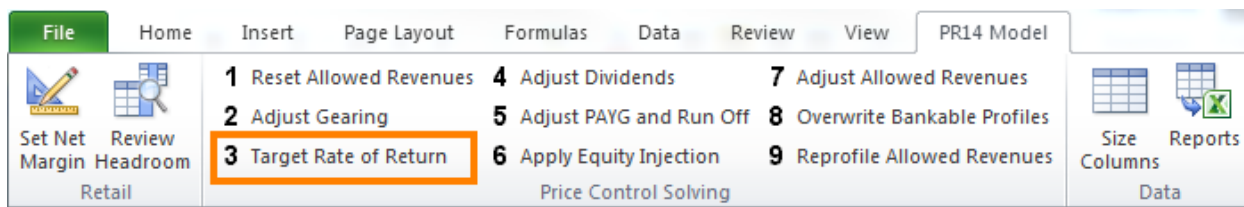
Buttons: Apply, Skip Remove Effects, Cancel

- 3.52 Clicking 'Apply' will use the selected gearing approach and target in the model, with corresponding impact on the revenue requirements and price controls.
- 3.53 Note 'Apply' must be clicked if changing inputs to move to a notional structure, in order for these changes to be implemented.
- 3.54 Clicking 'Skip' will skip this stage in the process and remove the effects of any changes made in the model.
- 3.55 Clicking 'Cancel' will exit the dialogue box and the model will remain unchanged.

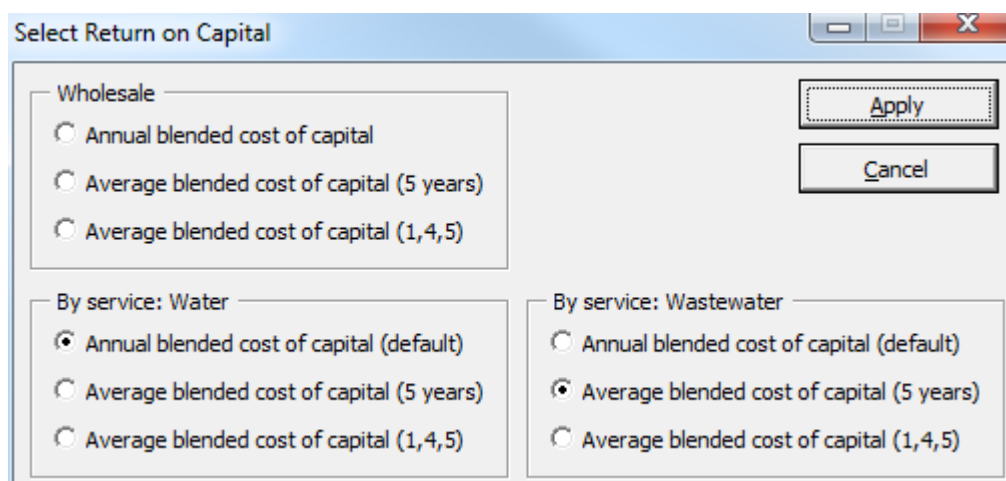
Stage 3 – target rate of return

- 3.56 This step allows the user to set the desired blended target rate of return for the weighted average cost of capital (WACC) applied on the RCV in determining the revenue requirement and price controls.
- 3.57 This is a semi-automated stage, in that the user must choose the basis on which the target rate of return should be calculated. The model then calculates the appropriate target rates of return by blending the input WACCs in line with the user-specified choice.

3.58 To do this, click on the ribbon tab called 'PR14 Model' and click on '3 Target Rate of Return'.



3.59 The relevant dialogue box appears which gives the user several options. The solving process will select the blended rate of return on capital to apply, equal to whichever of the options the user selects, taking into account the model inputs (for example, sourced from a company's BPTs).



3.60 The options are as follows.

- **Wholesale level** – the user can set target return on capital at wholesale level, to one of the following options:
 - annual blended cost of capital – this will set target return on capital to equal the average across both services for all years (that is, 2015-16 to 2024-25);
 - average blended cost of capital (five years) – this will set target return on capital using five-year average across both services; and
 - average blended cost of capital (1,4,5);
 - this will set return on capital in the first year to equal that of the first year;
 - the average across both services for the next four years, and;
 - the average across both services for the next five years thereafter.

- **Service level** – the same options as wholesale can also be specified for each service (that is, setting different target returns on capital for water and wastewater).
 - If the user selects options in the service level (water and wastewater) sections of the dialogue box, then assumptions will be applied at service level.
- 3.61 Once the desired option(s) has been selected, click 'Apply' to apply this choice in the model.
- 3.62 Clicking 'Cancel' will exit the dialogue box and the model will remain unchanged.
- 3.63 As noted earlier, if the input labelled 'Company type' in the 'Input Nominal' sheet (at section 12 Model Parameters) is set to 'WoC' (water only company), then the options at wholesale and wastewater level will be disabled in the dialogue box (as shown at the diagram below). In this case, the user will enter data into the 'By service: Water' section only.
- 3.64 The 'disabling' described above in fact applies to all stages in the price control solving process where service level options and data entry are available (that is, stages 3, 5, 6, 8 and 9). If the company type is set to 'WoC', then it will only be possible to enter data at the water service level, and anything that applies to waste and/or wholesale will be disabled and 'greyed out'. An example of this is shown below (but is not shown in this guide for every relevant stage in the price control solving process).

Select Return on Capital

Wholesale

☐ Annual blended cost of capital

☐ Average blended cost of capital (5 years)

☐ Average blended cost of capital (1,4,5)

By service: Water

☒ Annual blended cost of capital (default)

☐ Average blended cost of capital (5 years)

☐ Average blended cost of capital (1,4,5)

By service: Wastewater

☐ Annual blended cost of capital (default)

☐ Average blended cost of capital (5 years)

☐ Average blended cost of capital (1,4,5)

Apply

Cancel

Stages 4–8

3.65 In addition to the functionality to adjust gearing to a notional capital structure, to select a target rate of return (WACC) approach and to reprofile allowed revenues the financial model includes additional functionality stages that may be used at Ofwat's discretion as part of setting price limits for PR14. The additional functionality does not set or imply an approach to policy. Ofwat's approach to financeability is set out in the methodology statement. This user guide does not discuss these areas of functionality as they are not intended for company use in preparing business plans.

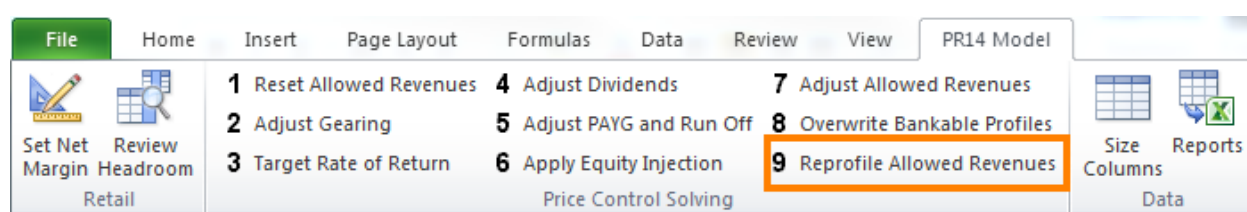
3.66 For completeness the additional stages include:

- adjust dividends – this contains the functionality to adjust dividends in the model to seek a set of financial indicators;
- adjust PAYG and run-off rates – this contains the functionality to override the base data PAYG ratios and RCV run-off rates;
- apply equity injection – this contains the functionality to apply an equity injection in any given year in the model;
- adjust Allowed Revenues – this contains the functionality to adjust allowed revenues in the model to seek a set of financial indicators; and
- overwrite bankable profiles – this contains the functionality to override the bankable allowed revenues determined during earlier price control solving stages.

Stage 9 – reprofile Allowed Revenues

3.67 This step allows the user to reprofile Allowed Revenues after the application of post-financeability adjustments, by smoothing them such that their net present value (NPV) remains the same as the original profile.

3.68 To do this, click on the 'PR14 Model' tab on the ribbon, and click '9 Reprofile Allowed Revenues'.



3.69 The relevant dialogue box appears which allows the user to:

- view the current Real Bankable Allowed Revenues in the model (greyed out in £m);
- check boxes enable the user to select which periods to reprofile by AMP (2015-19; or 2020-24);
- reprofile (smooth) Real Allowed Revenues such that their NPV remains the same as the original profile;
- include or exclude specific years from the solving process;
- enter or 'force' specific Allowed Revenues in £m; and
- reprofile Allowed Revenue by service.

Reprofile Allowed Revenues

AMP(s) to Reprofile
☐ 2015-2020
☐ 2020-2025

Service(s) to Reprofile
☐ Water
☐ Waste

Reprofile

Note the following profiles incorporate Bankable Revenues as input and any applicable Post Financeability adjustments

Reprofiling Not Yet Complete

Water

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Hold allowed revenue	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bankable allowed revenues	165,293	243,341	262,373	280,046	290,926	295,028	298,198	299,113	299,800	300,230
Reprofiled allowed revenues	165,293	243,341	262,373	280,046	290,926	295,028	298,198	299,113	299,800	300,230
NPV (2015-2020): £1,112.506m	NPV (2020-2025): £1,134.348m									

Wastewater

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Hold allowed revenue	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bankable allowed revenues	230,492	167,072	194,219	224,707	252,599	274,990	282,095	288,395	293,806	298,537
Reprofiled allowed revenues	230,492	167,072	194,219	224,707	252,599	274,990	282,095	288,395	293,806	298,537
NPV (2015-2020): £962.334m	NPV (2020-2025): £1,091.652m									

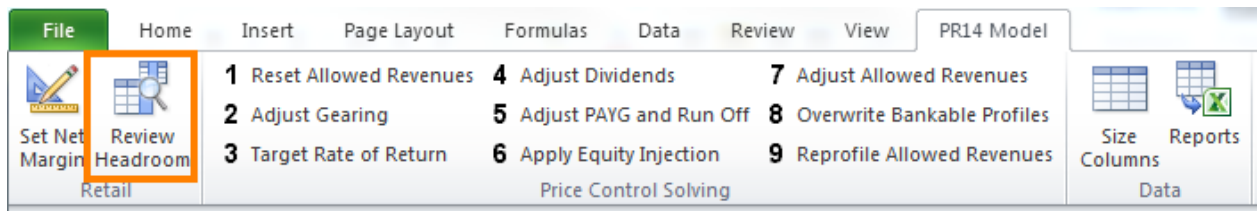
Apply **Cancel**

- 3.70 If Allowed Revenue is changed without changing any other relevant factors in the model, then K will remain constant when 'Reprofile' is clicked and only Allowed Revenue will be changed.
- 3.71 If the user 'forces' an Allowed Revenue by entering specific values in particular years, clicking reprofile will calculate K such that the NPV of the profile – including any forced adjustments – is equal to the original profile.
- 3.72 It is possible to exclude specific years from the solving process using checkboxes against each year. If the check boxes at the top of the dialogue box are ticked (next to each year shown), then revenue will be held constant in the solving process for those years.
- 3.73 Allowed Revenue for the first year may be input to the model, if a different value to the bankable Allowed Revenue (after applying post-financeability adjustments) is required.

- 3.74 The year 1 Allowed Revenue either as input or as pre-populated from bankable Allowed Revenue after post-financeability adjustments is held constant as part of the reprofiling stage for AMP 1. Year 1 Allowed Revenue is not reprofiled by the model.
- 3.75 The user can combine exclusion from the solving process with overwriting values for revenue, by entering alternative revenue amounts in the input boxes for particular years. If the user does this, the relevant check boxes will be automatically ticked, and revenue will be held constant for those years.
- 3.76 This functionality is not available in the dividend solving process due to the interrelationship between dividends across the years.
- 3.77 If the profile is forced in such a way that the NPV cannot be held constant, the model will report that reprofiling revenues has not been completed (underneath the 'Reprofile' button).
- 3.78 The user can click 'Apply' to save and apply the reprofiled Allowed Revenue profile to the model.
- 3.79 Clicking 'Cancel' will exit the dialogue box and the model will remain unchanged.

Headroom check revisited

- 3.80 The headroom check is intended to apply to an efficient retailer in order to inform understanding of financeability of retail level margins. As noted in section 2.68, after solving the wholesale price control, the user must perform a manual 'Headroom' check at the 'Headroom check' sheet in the model. This checks that the retail net margin specified by the user is sufficient to cover tax and interest.
- 3.81 Note that it is important to conduct this stage at whatever stage the Price Control Solving is terminated. This may not be stage 9 depending on the user preferences.
- 3.82 There is a button on the PR14 ribbon which allows the user to go to the headroom checks which is the 'Review Headroom' button.



- 3.83 If the user is not satisfied with the headroom check, there is a button on the PR14 ribbon which takes the user to the 'Input Nominal' sheet whereby the net margin assumptions can be altered.
- 3.84 If the retail assumptions are changed on the input sheet, the wholesale price controls must be re-solved. The user will be alerted to this by a message box and asked to reset the wholesale initial allowed revenues.

This user guide is a not a policy statement and users are referred to Ofwat's methodology statement and associated documents for further information.

4. Standard reports

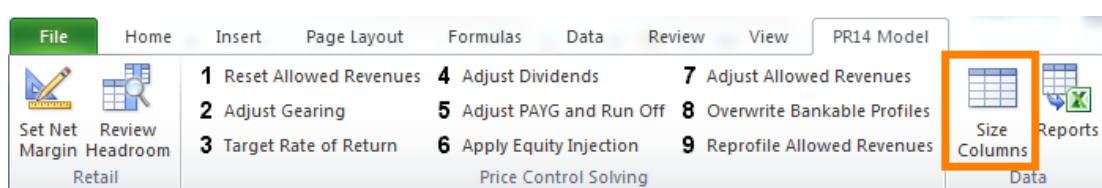
Introduction

4.1 This chapter outlines the main outputs available in the model. The main output worksheets in the model are:

- **Dashboard** – contains the model outputs for water, wastewater, and appointee financial indicators. It tracks the determination of the wholesale price controls from initial, to bankable;
- **HH Price limits** – this report displays the retail HH price controls;
- **NHH Price limits NHH** – this report displays the retail NHH price controls;
- **Net margin headroom check** – this report enables the user to carry out a manual check that the applied retail net margin is sufficient to cover interest and tax for the control;
- **Exec Summary** – contains price control outputs and specific information for wholesale and retail – for example, on Allowed Revenue, bills, income statement and financial indicators;
- **Wholesale Tax reconciliation** – this report contains calculations to reconcile tax at wholesale and service levels;
- **F_Outputs** – a single output sheet that formats key model outputs so they can be uploaded to Fountain; and
- **Appointee Fin Stats** – a full set of nominal financial statements at the appointee level.

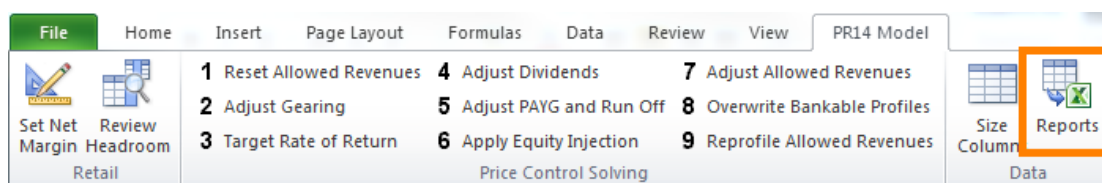
Size columns

4.2 To autosize the columns on the active sheet to fit the content of the cells the user can click the size column button. This action may not be undone.



Reports form

- 4.3 To display and change the format of the report sheets described above, the user clicks the 'Reports' button on the 'PR14 Model' ribbon.



- 4.4 This displays the following form.

A screenshot of the 'Output Reports' dialog box. The dialog has a title bar with standard Windows window controls. Inside, there's a 'Select Report' section with a list box containing five items: '1 HH Price Limits', '2 NHH Price Limits', '3 Net margin headroom check', '4 Appointee Financial Statements (Nominal)', and '5 Wholesale Tax Reconciliation (Nominal)'. Below this is a 'Display' section with 'Start year' (2015-16) and 'End year' (2024-25) dropdowns, and three checked checkboxes: '5 year totals', 'Grand total', and 'Show annual values'. To the right is a 'Format' section with a checked checkbox 'Change rounding settings' and three rounding dropdowns: 'Rounding: Values in £ millions' (3dp), 'Rounding: Values in £s' (2dp), and 'Rounding: Indicators (%ages)' (2dp). At the bottom left is an 'Export to PDF' section with a checked 'Export' checkbox and a 'File Name' field containing 'Reports 20130924 1408'. At the bottom right are 'OK' and 'Cancel' buttons.

- 4.5 A user should select all reports they wish to display from the 'Select Report' list.
- 4.6 The user can chose the period for the report, and which values to display through the 'Display' section of the form; at least one of these options should be selected.

- 4.7 Where 'Show annual values' is de-selected the 'Start year' and 'End year' fields are disabled and become greyed out.
- 4.8 If a user selects 'Change rounding settings', the inputs in the 'Format' section of the form are activated. Here, the user can change the level of precision displayed for each of the following number fields.
- Values in £ millions – between 0 and 3 decimal places.
 - Values in £s – between 0 and 2 decimal places.
 - Indicators (%ages) – between 0 and 2 decimal places.
- 4.9 If the 'Export to PDF' option is selected the form will save PDFs of the reports selected to the same folder path as the model.
- 4.10 On clicking 'OK' the reports are displayed according to the form inputs, and the user shown the Reports summary sheet.
- 4.11 On clicking 'Cancel' the format and visibility of the reports are not altered, and the user moved to the Reports summary sheet.

Dashboard

- 4.12 This contains the model outputs for water, wastewater, and appointee financial indicators. The following sub-sections outline the main outputs available in the Dashboard worksheet, from top to bottom.

Financial indicators – initial and current

- 4.13 The following financial indicators are reported both for the initial values set before solving; and the final values set as a result of solving.
- Return on Capital Employed (ROCE).
 - Return on Regulatory Equity (RORE).
 - Cash Interest Cover.
 - Adjusted cash interest cover ratio.
 - Funds from operations/debt.
 - Retained cash flow/debt.
 - Gearing.
 - Dividend cover.
 - Regulatory equity/retained earnings for the regulatory company.

- RCV/Earnings Before Interest Tax Depreciation and Amortisation (EBITDA).
- Retained Cash Flow (RCF) to capex.

4.14 The following screen shot shows the financial indicators section of the dashboard.

11213			A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
Dashboard																				
Year								2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
								1	2	3	4	5	6	7	8	9	10			
Financial Indicators: Initial and Current																				
Initial Indicators																				
1	Nominal	% 1dp	Return on Capital Employed (RoCE)								(9.2%)	(7.8%)	(6.3%)	1.6%	3.8%	6.7%	7.7%	8.3%	9.1%	9.3%
2	Nominal	% 1dp	Return on Regulatory Equity (RoRE)								(10.6%)	(9.3%)	(8.0%)	1.1%	3.6%	6.8%	7.7%	8.1%	8.8%	8.8%
3	Nominal	Nr 3dp	Cash Interest Cover								15.355	13.220	12.707	11.631	12.634	15.361	16.378	17.682	16.651	15.615
4	Nominal	Nr 3dp	Adjusted cash interest cover ratio								7.610	4.882	4.132	3.302	3.198	3.927	5.006	4.952	4.573	4.166
5	Nominal	Nr 3dp	Funds from operations/debt								0.490	0.570	0.407	0.424	0.688	1.126	1.630	2.522	3.860	6.022
6	Nominal	Nr 3dp	Retained cash flow/debt								(0.253)	(0.049)	(0.451)	(0.196)	0.347	0.351	0.294	0.438	0.438	0.534
7	Nominal	% 1dp	Gearing								11.5%	10.5%	16.3%	16.3%	12.5%	8.2%	5.6%	3.9%	2.6%	1.7%
8	Nominal	Nr 3dp	Dividend Cover								(2.125)	(0.659)	(0.695)	0.722	0.887	0.931	0.935	0.932	0.931	0.926
9	Nominal	Nr 3dp	Regulatory equity/retained earnings for the regulatory company								(6.359)	(4.223)	(5.088)	(256.418)	(221.450)	(198.285)	(185.684)	(170.022)	(155.409)	(141.895)
10	Nominal	Nr 3dp	RCV/EBITDA								17.047	13.942	11.845	10.325	9.262	8.710	8.554	8.350	8.167	8.002
11	Nominal	Nr 3dp	RCF to Capex								5.962	2.373	(6.959)	(0.314)	3.080	6.663	4.145	3.367	2.913	2.309
Current (Final) Indicators																				
1	Nominal	% 1dp	Return on Capital Employed (RoCE)								(9.2%)	(7.8%)	(6.3%)	1.6%	3.8%	6.7%	7.7%	8.3%	9.1%	9.3%
2	Nominal	% 1dp	Return on Regulatory Equity (RoRE)								(13.7%)	(12.3%)	(10.6%)	(0.1%)	2.7%	5.8%	6.8%	7.3%	8.0%	8.0%
3	Nominal	Nr 3dp	Cash Interest Cover								3.730	3.961	4.389	4.920	5.688	6.032	6.651	6.746	6.712	6.636
4	Nominal	Nr 3dp	Adjusted cash interest cover ratio								0.171	0.055	0.109	0.207	0.318	0.352	0.542	0.623	0.614	0.587
5	Nominal	Nr 3dp	Funds from operations/debt								0.173	0.206	0.202	0.238	0.478	0.804	1.104	1.448	1.951	2.272
6	Nominal	Nr 3dp	Retained cash flow/debt								(0.170)	(0.047)	(0.231)	0.150	0.313	0.428	0.206	0.260	0.246	0.202
7	Nominal	% 1dp	Gearing								24.2%	23.4%	28.4%	22.6%	16.1%	10.3%	7.8%	6.1%	4.9%	4.1%
8	Nominal	Nr 3dp	Dividend Cover								(2.736)	(0.805)	-	-	-	0.928	0.926	0.925	0.925	0.919
9	Nominal	Nr 3dp	Regulatory equity/retained earnings for the regulatory company								(5.289)	(3.583)	(3.197)	(453.435)	38.432	(218.350)	(194.641)	(169.472)	(154.785)	(141.234)
10	Nominal	Nr 3dp	RCV/EBITDA								17.936	14.962	12.320	10.657	9.469	8.905	8.736	8.521	8.331	8.159
11	Nominal	Nr 3dp	RCF to Capex								4.240	1.574	(5.550)	8.930	10.031	8.810	4.076	3.224	2.709	2.210
Allowed Revenue																				
Initial Allowed Revenue																				
Water																				
Real	€m	3dp	Initial allowed revenue								111.833	153.359	194.426	235.294	278.807	308.559	330.088	341.621	360.439	378.055

Allowed Revenue

4.15 Allowed Revenue breakdowns are provided by water and wastewater.

4.16 The impact of the various optional user adjustments made as part of the solving process are set out by calculation phase as follows.

- Phase 2 – PAYG and run-off rates.
- Phase 3 – gearing adjustment.
- Phase 4 – target rates of return.
- Phase 5 – dividend adjustment.
- Phase 6 – equity injection.
- Phase 7 – Allowed Revenue adjustment.
- Phase 8 – bankable allowed revenue profile.
- Phase 9 – reprofiled allowed revenues.

4.17 The following screen shot shows the Allowed Revenue section of the dashboard.

Setting price controls for 2015-20: PR14 financial model user guide
September 2014

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R					
1		Dashboard																						
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Price control solving adjustments

4.18 The next sections of the dashboard set out adjustments made in the solving process for the following areas.

- PAYG and run-off rates.
- Gearing adjustment.
- Target rates of return (blended).
- Dividend adjustments.
- Equity injection.
- Allowed Revenue adjustment.

4.19 These adjustments are broken down as follows (where applicable).

- Water.
- Wastewater.

4.20 The corresponding effects of the adjustments (alongside the adjusted driver) are shown through the following sections.

- Allowed Revenues.
- Financial indicators (initial and current).

- 4.21 The following screen shot shows an example section of the dashboard for the PAYG and run-off rate adjustments. The calculations for the other adjustments outlined above follow the same broad format, albeit with differences to reflect the individual adjustments, which were explained in detail earlier in chapter 3 (on price control solving).
- 4.22 Note that there are calculations for two further types of adjustment (reprofiling bankable revenues and post-financeability revenue adjustments) in phases 8 and 9, which differ in format to the above adjustments, and are therefore explained separately in the following sub-sections.

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Dashboard																											
Year												2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25			
Phase 2: PAYG and run-off rates																											
PAYG & run-off rates																											
												PAYG - Amp 1				PAYG - Amp 2				Run-off rates - Amp 1				Run-off rates - Amp 2			
												Initial		Revised		Initial		Revised		Initial		Revised		Initial		Revised	
Water												20.0%		-%		20.0%		-%		2.2%		-%		2.2%		-%	
Wastewater												10.0%		-%		10.0%		-%		1.8%		-%		1.8%		-%	
Change in allowed revenue																											
Real	€m 3dp	Water										-	-	-	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)					
Real	€m 3dp	Wastewater										-	-	-	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000					
Real	€m 3dp	Appointee										-	-	-	(0.000)	-	-	(0.000)	-	-	0.000	0.000					
Financial Indicators: PAYG & run-off rates																											
1	Nominal	% 1dp	Return on Capital Employed (PoCE)									(9.2%)	(7.8%)	(6.3%)	1.6%	3.8%	6.7%	7.7%	8.3%	9.1%	9.3%						
2	Nominal	% 1dp	Return on Regulatory Equity (PoRE)									(10.6%)	(9.3%)	(8.0%)	1.1%	3.6%	6.8%	7.7%	8.1%	8.8%	8.8%						
3	Nominal	Nr 3dp	Cash Interest Cover									15.955	13.220	12.690	11.833	12.835	15.371	16.373	17.883	16.891	15.816						
4	Nominal	Nr 3dp	Adjusted cash interest cover ratio									7.610	4.883	4.114	3.303	3.198	3.338	5.002	4.952	4.573	4.166						
5	Nominal	Nr 3dp	Funds from operations/debt									0.430	0.570	0.406	0.424	0.687	1.125	1.688	2.519	3.854	6.007						
6	Nominal	Nr 3dp	Retained cash flow/debt									(0.253)	(0.049)	(0.451)	(0.196)	0.346	0.351	0.294	0.437	0.497	0.532						
7	Nominal	% 1dp	Gearing									11.5%	10.5%	16.3%	18.3%	12.5%	8.2%	5.6%	3.3%	2.6%	1.7%						
8	Nominal	Nr 3dp	Dividend Cover									(2.125)	(0.698)	(0.698)	0.722	0.887	0.932	0.934	0.932	0.931	0.926						
9	Nominal	Nr 3dp	Regulatory equity/retained earnings for the regulatory company									(6.353)	(4.223)	(5.084)	(256.394)	(221.438)	(201.613)	(185.062)	(170.026)	(155.408)	(141.695)						
10	Nominal	Nr 3dp	RCV/EBITDA									17.047	13.941	11.860	10.325	9.262	8.704	6.555	6.350	6.167	6.002						
11	Nominal	Nr 3dp	RCF to Capex									5.962	2.374	(6.974)	(0.314)	9.080	6.873	4.143	3.367	2.813	2.309						
Phase 3: Gearing adjustment																											
Gearing adjustment																											
Basis of gearing calculation												Base Year															
Reverse impact of debt interest on tax?												No															
												Gearing - Base				Gearing - 5 Year				Debt				Adjustment			
												Initial		Current		Initial		Current		Initial		Current		Initial		Current	
Nominal												8.1%		20.0%		13.3%		22.9%		(281.015)							
Appointee																											

Override bankable allowed revenues and post-financeability revenue adjustments

- 4.23 After determining Allowed Revenues that are considered financeable, the model allows post-financeability revenue adjustments to be applied. They include:

- service incentive mechanism (SIM) adjustment (+ or -);
- opex incentive allowance (+ only);
- CIS adjustment (+ or -);
- revenue correction mechanism (RCM) adjustment (+ or -);
- equity injection claw back (- only);
- tax refinancing benefit claw back (- only);
- outcome delivery incentive (+ or -); and
- totex menu additional income (+ or -).

1	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
2	Dashboard																	
3		Year				2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
343	Phase 9: Re-profiled allowed revenue																	
344	Re-profiled allowed revenue																	
345																		
346																		
347																		
348	Real	£m	3dp	5 year NPV before re-profiling					1,936,303									
349	Real	£m	3dp	2nd 5 year NPV before re-profiling					2,065,372									
350																		
351																		
352	Real	£m	3dp	Phase 9: Re-profiled allowed revenue														
353	Real	£m	3dp	Water				205,913	238,921	247,843	265,506	288,403	295,287	305,541	285,610	282,734	281,539	
354	Real	£m	3dp	Wastewater				79,842	168,451	198,866	229,484	240,506	246,938	245,352	257,091	257,944	258,096	
355	Real	£m	3dp	Appointee				285,755	407,372	446,709	494,390	523,309	542,225	551,433	542,701	540,678	539,635	
356	Real	£m	3dp	5 year NPV after re-profiling					1,936,303									
357	Real	£m	3dp	2nd 5 year NPV after re-profiling					2,065,372									
358																		
359	Capital contributions from connection charges																	
360																		
361																		
362	Real	£m	3dp	Capital contributions from connection charges														
363	Real	£m	3dp	Water					-	-	-	-	-	-	-	-	-	-
364	Real	£m	3dp	Wastewater					(1,000)	-	-	-	-	-	-	-	-	-
365	Real	£m	3dp	Appointee					(1,000)	-	-	-	-	-	-	-	-	-
366																		
367	Final allowed revenue and k																	
368																		
369	Real	£m	3dp	Final allowed revenue														
370	Real	£m	3dp	Water					200,000	205,913	238,921	247,843	265,506	288,403	295,287	305,541	285,610	282,734
371	Real	£m	3dp	Wastewater					225,000	78,942	168,451	198,866	229,484	240,506	246,938	245,352	257,091	257,944
372	Real	£m	3dp	Appointee					425,000	284,755	407,372	446,709	494,390	523,309	542,225	551,433	542,701	540,678
373																		
374																		
375																		
376																		
377	End																	
378																		

Executive Summary

4.29 The Executive Summary report sets out the following information resulting from the price control solving process, which is outlined in detail in section 3.

Price Control Allowed Revenues

4.30 Information is provided as follows.

- Wholesale Allowed Revenues.
- Wholesale K factors.
- K.
- Broken down by:
 - water and wastewater.
- Retail Allowed Revenues by:
 - household; and
 - non-household (based on average allowed revenue per customer by tariff band).

4.31 The following screen shot shows the Allowed Revenue section of the Executive Summary.

[illegible][illegible]

Setting price controls for 2015-20: PR14 financial model user guide September 2014

A			B			C			D			E			F			G			H			I			J			K			L			M			N			O			P			Q			R			S			T			U			V			W		
Executive Summary																																																																				

Financial indicators

4.36 The financial indicators outlined earlier are provided at the appointee level, and are calculated in nominal outturn prices.

- Wholesale (water and wastewater).
- Retail (household and non-household).

4.37 The following screen shot shows the financial indicators section of the Executive Summary.

A B C D E F G H I J K L M N O P Q R S T U V W																			
Executive Summary																			
				2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25				2015-20	2020-25	2015-25
Financial Indicators																			
Appointee - Target financial indicators (used in determining Price Controls)																			
3	3	Nr	3dp	Cash Interest Cover	3.730	3.361	4.389	4.920	5.688	6.092	6.651	6.746	6.712	6.636			4.570	6.566	5.572
4	4	Nr	3dp	Adjusted cash interest cover ratio	0.171	0.055	0.109	0.207	0.318	0.352	0.542	0.623	0.614	0.587			0.174	0.543	0.359
5	5	Nr	3dp	Funds from operations/debt	0.173	0.206	0.202	0.238	0.478	0.804	1.104	1.448	1.851	2.272			0.256	1.332	0.506
6	6	Nr	3dp	Retained cash flow/debt	(0.170)	(0.047)	(0.231)	0.150	0.313	0.428	0.206	0.260	0.246	0.202			(0.025)	0.230	0.048
7	7	%	0dp	Gearing	24%	23%	28%	23%	16%	10%	8%	6%	5%	4%			23%	7%	15%
8	8	Nr	3dp	Dividend Cover	(2.736)	(0.805)	-	-	-	0.928	0.926	0.925	0.925	0.919			(1.676)	0.924	0.177
9	9	Nr	3dp	Regulatory equity/retained earnings for the RCV/EBITDA	(5.269)	(3.583)	(3.197)	(453.435)	38.432	(218.350)	(184.641)	(163.472)	(154.785)	(141.234)			(3.384)	(163.017)	(19.869)
10	10	Nr	3dp		17.336	14.562	12.320	10.657	9.489	8.905	8.736	8.521	8.331	8.153			12.262	8.521	10.006
Wholesale - Additional financial indicators																			
Wholesale																			
55	€m	0dp	Closing year end RCV	4,071	4,199	4,301	4,374	4,414	4,435	4,453	4,467	4,479	4,489			4,414	4,489	4,489	
56	7	€m	0dp	Gearing	0	0	0	0	0	0	0	(0)	(0)	(0)			0	(0)	0
57	€m	0dp	Year average RCV	4,045	4,186	4,303	4,391	4,449	4,480	4,499	4,516	4,529	4,540			4,167	4,452	4,204	
58	%	0dp	Year average RCV Growth YoY	4%	4%	3%	2%	1%	1%	0%	0%	0%	0%			2%	0%	1%	
59	%	0dp	Pretax return on RCV	(12%)	(10%)	(9%)	1%	5%	9%	10%	10%	11%	11%			(5%)	10%	-%	
60	%	0dp	Post-tax return on RCV	(9%)	(8%)	(6%)	2%	4%	7%	8%	8%	9%	9%			(3%)	8%	-%	
61	1	%	0dp	Return on Capital Employed (RoCE)	(9%)	(8%)	(6%)	2%	4%	7%	8%	8%	9%	9%		(3%)	8%	3%	
62	2	%	0dp	Return on Regulatory Equity (RoRE)	(13%)	(12%)	(10%)	0%	3%	6%	7%	7%	8%	8%		(6%)	7%	2%	
63	11	Nr	3dp	RCF to Capex	4.333	1.848	(5.207)	9.347	10.523	9.374	4.700	3.905	3.449	3.011		4.268	4.819	4.561	
Water																			
65	€m	0dp	Closing year end RCV	2,409	2,456	2,491	2,515	2,525	2,528	2,530	2,530	2,529	2,526			2,525	2,526	2,526	
66	€m	0dp	Year average RCV	2,410	2,462	2,504	2,525	2,551	2,558	2,561	2,562	2,561	2,559			2,439	2,528	2,439	
67	%	0dp	Year average RCV Growth YoY	2%	2%	1%	1%	1%	1%	0%	0%	0%	(0%)			1%	1%	-%	
68	%	0dp	Pretax return on RCV	(10%)	(9%)	(8%)	4%	6%	9%	11%	11%	12%	12%			(3%)	11%	-%	
69	%	0dp	Post-tax return on RCV	(8%)	(7%)	(6%)	4%	5%	7%	9%	9%	9%	10%			(2%)	9%	-%	
Wastewater																			
71	€m	0dp	Closing year end RCV	1,662	1,744	1,810	1,859	1,889	1,907	1,923	1,937	1,950	1,963			1,889	1,963	1,963	
72	€m	0dp	Year average RCV	1,635	1,724	1,799	1,857	1,898	1,922	1,939	1,954	1,968	1,981			1,729	1,926	1,765	
73	%	0dp	Year average RCV Growth YoY	5%	4%	3%	2%	1%	1%	1%	1%	1%	1%			3%	1%	2%	
74	%	0dp	Pretax return on RCV	(10%)	(8%)	(7%)	(2%)	2%	6%	6%	7%	8%	8%			(7%)	9%	-%	
75	%	0dp	Post-tax return on RCV	(7%)	(6%)	(5%)	(1%)	2%	6%	6%	7%	8%	8%			(5%)	7%	-%	

[illegible]

This user guide is a not a policy statement and users are referred to Ofwat's methodology statement and associated documents for further information.

5. Index linked debt macro

Overriding index linked debt opening position

- 5.1 The model includes functionality to override the opening index linked debt balance, via the Input Nominal sheet. If the opening index linked debt balance is overridden the model then provides the user with an option to hold the tax charge constant. The index linked debt macro sheet supports the calculation of the tax adjustment required to keep the tax consistent with the tax charge before the index linked debt override.
- 5.2 The override to the index linked debt opening balance can be entered to the Input Nominal sheet in the override cell in section 6.4. There is a button on the index linked debt macro sheet which takes you to the cell where the adjustment should be made.
- 5.3 The model will not allow the opening index-linked debt position to be overridden without removing any existing tax adjustments.
- 5.4 Upon overriding the index linked debt opening balance OR removing an existing override the model will automatically prompt the user with the option to remove existing tax adjustments and then to make a tax adjustment. The tax adjustment offered allows tax charge to be set consistent with the level of tax prior to adjusting the index linked debt.
- 5.5 If the user opts to make the tax adjustment any previous tax adjustments input in the Input nominal sheet sections 5.2 and 5.3 are overwritten. The resulting tax charge will remain consistent with the pre-adjustment tax charge. Upon successfully adjusting the tax the user will be notified.
- 5.6 If the user does not opt to remove the existing tax adjustments then the index linked debt override is not accepted and the model reverts to its pre-adjustment state.



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